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, barbeques, 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 purchaser 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. There is absolutely no warranty on software and all software products are sold as a user license under the terms of the software license agreement included with the product. The Customer assumes all responsibility for the proper selection, installation, operation and maintenance of any products purchased from DSC. Custom products are only warranted to the extent that they do not function upon delivery. In such cases, DSC can replace or credit at its option.

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.

Items Not Covered by Warranty
In addition to the items which void the Warranty, the following items shall not be covered by Warranty: (i) freight cost to the repair centre; (ii) products which are not identified with DSC's product label and lot number or serial number; (iii) products disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection or testing to verify any warranty claim. Access cards or tags returned for replacement under warranty will be credited or replaced at DSC's option. Products not covered by this warranty, or otherwise out of warranty due to age, misuse, or damage shall be evaluated, and a repair estimate shall be provided. No repair work will be performed until a valid purchase order is received from the Customer and a Return Merchandise Authorisation number (RMA) is issued by DSC's Customer Service.

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. The laws of some jurisdictions limit or do not allow the disclaimer of consequential damages. If the laws of such a jurisdiction apply to any claim by or against DSC, the limitations and disclaimers contained here shall be to the greatest extent permitted by law. Some states do not allow the exclusion or limitation of incidental or consequential damages, so that the above may not apply to you.

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 responsibility for, 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.

Products which Digital Security Controls Ltd. determines not to be repairable will be replaced by the nearest equivalent product available at that time. The current market price of the replacement product will be charged for each replacement unit.

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

PC4850 Wiring Diagram

Transformer
16.0V @ 40 VA
For EU countries,
the power supply must
meet the applicable requirements
of the Low Voltage Directive
**NOTE: Do not connect transformer
to a receptacle controlled by a
switch, for UL/ULC installations.**

GROUND
CONNECTION
Nut
Lock washer
Lock washer
Ground wire
from building
Speaker

Use AWG #18

12V
DC Backup
Supply

Door Strike Transformer
Use AWG #18
Do not connect transformer to
a receptacle controlled by a
switch.

AWG #18

16 VAC
40VA min.

Postal
Lock

2nd (Aux.)
Relay
NC NO CM

AC Door
Strike

DC Door
Strike

NO Relay 1

NC Relay 1

COM Relay 1

Not Used

RNG TIP EGND NB2 NB1   -BAT +BAT P0 NC NO CM L5 L4 L3 L2 L1 AC4 AC3 AC2 AC1

WARNING - High voltage. Disconnect AC power
and telephone lines prior to servicing.

WARNING
INCORRECT CONNECTIONS MAY
RESULT IN IMPROPER OPERATION.
INSPECT WIRING AND ENSURE CONNECTIONS
ARE CORRECT BEFORE APPLYING POWER.

J2

*WARNING: The Lithium battery is NOT
replaceable. There is a risk of explosion if
battery is replaced incorrectly. If the lithium
battery stops working, return the circuit
board to the supplier.   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.

RV1
LCD Contrast

CAUTION: Lithium
battery cannot
be replaced*

RV3
Microphone
Volume

RV5
Speaker
Volume

RV4
Pulse Dial
Sensitivity

RV2
Beep Volume

SPK1 SPK2 T1 MUBL RED BLK YEL GRN SAUX AUX+ GND

*The Marking related information is
provided on the Printed Circuit Board
located within the equipment.

Tamper

Combus

AUX
Supply

Not
Used

Speaker

Connect to
other
PC4850s

IMPORTANT (For EU Market)

1. The connection to the mains supply must be made as per 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 & experience necessary to be aware of hazards to which they are exposed in performing that task.

5. Internal & external 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 LowVoltage 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 rated voltage.

- it is the responsibility of the installer to incorporate a readily accessible disconnect device in the fixed wiring for the user (i.e., circuit breaker, isolating switch).

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 - 16V_{AC}, 40VA
- Backup power source - 12 V_{DC}, 4Ah compatible (not included)
- Battery charger - 350mA to charge 12V_{DC} lead acid batteries (observe all safety instructions provided by battery manufacturer)
- Door strike transformer connection - 8 to 24V_{AC}, 1.6A
- Primary relay outputs - 24V_{AC}, 1.6A continuous; 24V, 2.0A peak
- Auxiliary relay output - 24V_{AC}, 1.6A
- Postal lock switch - 12V_{DC}, 0.25A
- Lithium backup battery for programming memory and clock included - lasts up to 10 years
- Speaker impedance: 45 Ω
- Aux output: 11.4 - 12V_{DC}, 25mA with 1.2Ah backup
  11.4 - 12V_{DC}, 200mA with 4Ah backup

NOTE: This output is not suitable to power Door Strikes

- Indoor and outdoor use (for UL & ULC only)

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 (Indoor or Outdoor Use for UL/ULC only)

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.*

46 inches (117cm)

Floor
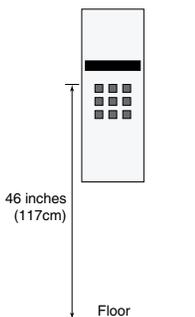
NOTE: *If mounting the PC4850 on a gatepost, mount it on the post which* **does not** *receive continuous vibration when the gate closes.*
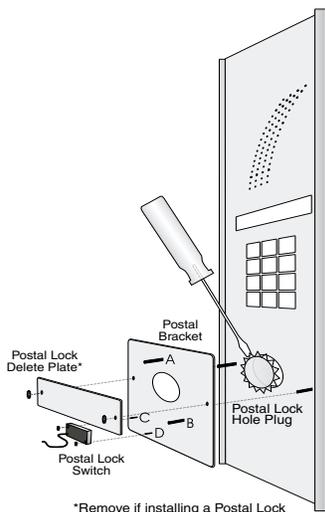
2. Schedule Telephone Company Set up
Inform the local telephone company that you will be installing communication equipment. They may need to know the FCC registration number of the system. The FCC number is on a label inside the PC4850 cabinet.

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).

Postal Lock Delete Plate*

Postal Bracket

A

C   B
D

Postal Lock Switch

Postal Lock Hole Plug

*Remove if installing a Postal Lock

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.

+BAT   PO

Postal Lock NO Contact
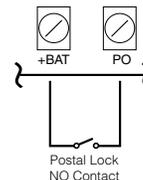
2.4 Installing the PC4850

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*'.

NOTE: For UL applications, if gates are used as part of the access control system, they must be evaluated to UL325.

AC (Buzzing) Door Strikes

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

Door 1
AC (Buzzing) Door Strike 1.6A (max.)
NO   COM

Door 2
AC (Buzzing) Door Strike 1.6A (max.)
NO   COM

Door Strike Transformer
Use AWG#18
Do not connect transformer to a receptacle controlled by a switch. For UL Listed Class2, 16VAC, 40VA

-BAT +BAT PO NC NO CM L5 L4 L3 L2 L1 AC4 AC3 AC2 AC1
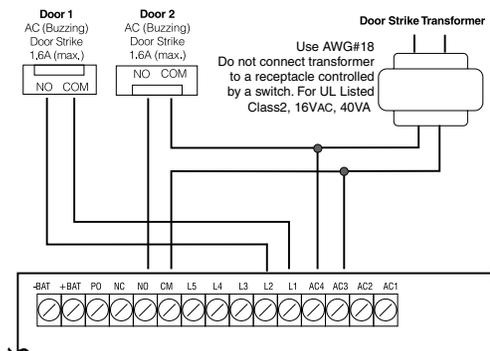
DC (Silent) Door Strikes

If you will be connecting DC door strikes, follow the diagram below:
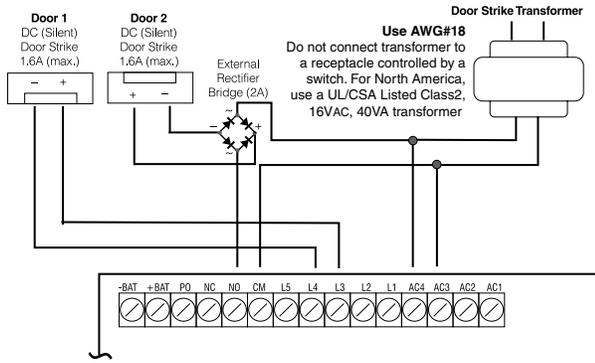
2.6 Connecting Magnetic Locks

If you will be connecting magnetic locks, follow the diagram below:
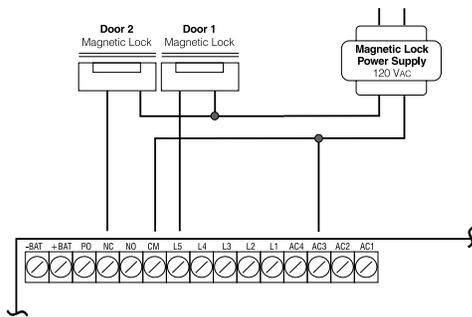
Follow the manufacturer's instructions when connecting the magnetic locks to the PC4850.

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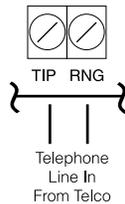
NOTE: *We recommend that you do not connect a telephone to the incoming telephone line used by the PC4850, as the security of the system may be reduced. If an external telephone is connected to this line, do not attempt outgoing telephone calls when no dial tone is present, as the line is being used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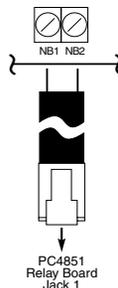
Note: *This option has not been verified by UL.*

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.
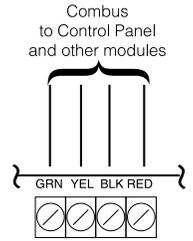
Example of Combus Wiring

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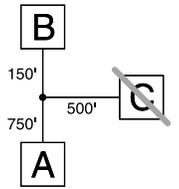
See your *PC4020 Installation Manual* for complete Combus wiring instructions.

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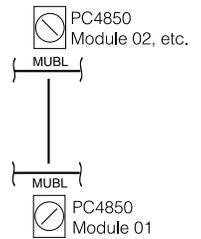
2.11 Connecting a PC4850 with a PC4820 Installed on the Same Door

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.
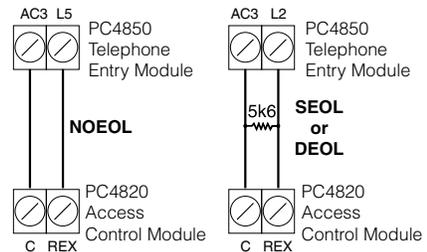
Note: *This option has not been verified by UL.*

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

3

2.12 Connecting the PC4850 to Ground

Make a ground connection as shown below:
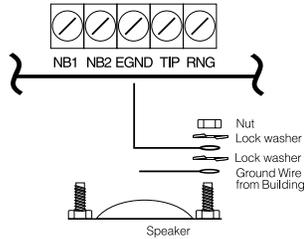
2.13 Connecting the Power

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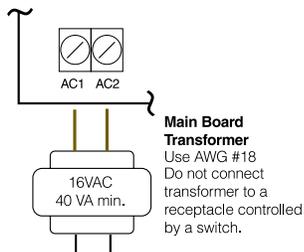
- If connecting a backup battery, connect the red battery lead to the +BAT terminal and the black lead to -BAT.
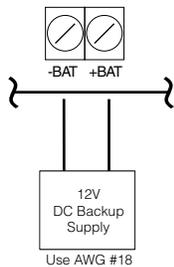
2.14 Lithium Batteries

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.
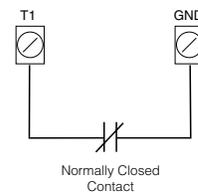
Section 3: Programming the PC4850

This section describes how the PC4850 modules 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 countdown 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 Programming by pressing [*] [8] [Installer Code].

NOTE: *The default Installer 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 though 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 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 dialling formats. The default setting is for the Touch-Tone format. To change the dialling format:

1. Enter [*][8][Installer 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 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 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 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 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.

NOTE: *Cell phones shall not be programmed to allow access.*

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: |__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

                |__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|__|

Tenant Information Record Sheet

NOTE: *Make copies of this sheet for building staff to record tenant information.*

User Name	Telephone Number	Tenant Code	Access Code

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 a 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.

DSC erklærer herved at denne komponenten overholder alle viktige krav samt andre bestemmelser gitt i direktiv 1999/5/EC.

Por este meio, a DSC, declara que este equipamento está em conformidade com os requisitos essenciais e outras determinações relevantes da Directiva 1999/5/EC.

"DSC bekräftar härmed att denna apparat uppfyller de väsentliga kraven och andra relevanta bestämmelser i Direktivet 1999/5/EC".

Con la presente la Digital Security Controls Ltd dichiara che questo prodotto è conforme ai requisiti essenziali ed altre disposizioni rilevanti relative alla Direttiva 1999/05/CE.

"Por la presente, DSC, declara que este equipo cumple con los requisitos requeridos por la Directiva 1999/5/EC".

Hierdurch erklärt DSC, daβ dieses Gerät den erforderlichen Bedingungen und Vorrausetzungen der Richtlinie 1999/5/EC entspricht.

'Δία του παρόντος, η DSC, δηλώνει ότι αυτή η συσκευή είναι σύμφωνη με τις ουσιώδης απαιτήσεις και με όλες τις άλλες σχετικές αναφορές της Οδηγίας 1999/5/EC'.

Hierbij verklaart DSC dat dit toestel in overeenstemming is met de eisen en bepalingen van richtlijn 1999/5/EC.

Par la présente, DSC déclare que cet article est conforme aux éxigences essentielles et autres relevantes stipulations de la directive 1999/5/EC.

DSC vakuuttaa laitteen täyttävän direktiivin 1999/5/EC olennaiset vaatimukset.

Hereby, DSC, declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

The complete R & TTE Declaration of Conformity can be found at www.dsc.com/intl/rttedirect.htm.

CE