

# MAXSYS™

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## PC4401 v1.0 Printer/PC-LINK Isolator/DataLink Module Application Guide

**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.*

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## 1. Introduction

You can use the PC4401 module for one of the following functions, when it is connected to a PC4020 v3.2 and higher system:

- DVACS\* communications
- printer module
- PC-LINK isolator
- interface for 3rd-party applications (DataLink module)

This manual assumes that you will be using the PC4401 as a printer module, PC-LINK isolator, or DataLink module. If you will be using the module for DVACS please see the *PC4401 Installation Manual (DVACS version)*.

### Printer Module

When you use the PC4401 as a printer module, you can connect it to a local serial printer so that the system can print out event information.

### PC-LINK Isolator Module\*\*

If you need a permanent PC-LINK connection between the downloading computer and the PC4020 system, use the PC4401 as a PC-LINK isolator module. The module does not need to be enrolled if you use it as a PC-LINK isolator. If you use the PC4401 this way, you must mount the module in the same cabinet at the PC4020 control panel.

### DataLink Module

The DataLink option allows you to connect an interface between a compatible 3rd-party computer application and the PC4020 system. Refer to the documentation with your 3rd-party application for more information.

## 2. Specifications

- Input - 12VDC via Combus connection
- Normal current draw of 35 mA
- Tamper and Trouble reporting codes

### PC4401 as a printer or DataLink module:

- Four wire (QUAD) hook-up to Combus
- Low Combus supervision to main control panel
- True RS-232 technology
- Protocol DTR
- Five possible Baud rates: 300, 600, 1200, 2400 or 4800
- Maximum cable length: 10 feet (3 meters)

## 3. Installing the PC4401

### 3.1 Unpacking

The PC4401 package includes the following parts:

- One PC4401 circuit board
- Four plastic stand-offs
- RS-232 cable and DB-25 adapter
- 4-pin PC-LINK connector

*NOTE: Mini-DIN cable not included.*

### 3.2 Mounting the Cabinet

When mounting a new cabinet for the PC4401, select a dry location. If the PC4401 will be a printer module, select a location close to the serial printer. If the PC4401 will be a DataLink module, select a location close to the computer running the 3rd-party application.

To mount the cabinet:

1. From the back of the cabinet, press in the four white circuit board stand-offs into the raised mounting holes.
2. Holding the cabinet in position, pull all wiring into the cabinet through the hole in the back.
3. Using the provided mounting screws and appropriate wall anchors, mount the cabinet securely to the wall.
4. Press the PC4401 module onto the plastic stand-offs.

\* DVACS is a registered trademark of Electro Arts Limited

\*\*For use with the DLS-3 System Administration Software

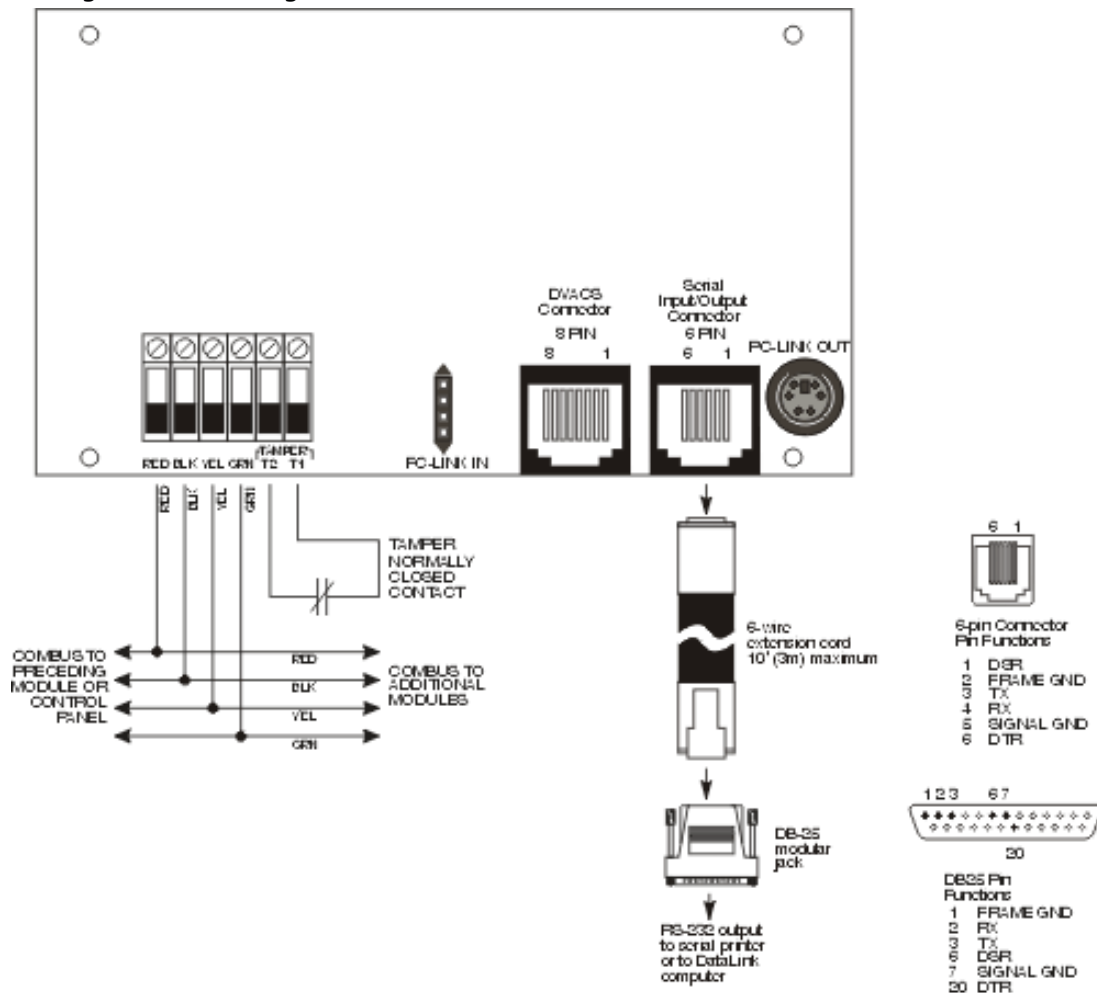
### 3.3 Wiring the PC4401 as a Printer or DataLink Module\*

Before beginning to wire the unit, ensure that all power (AC transformer and battery) is disconnected from the control panel.

Perform the following steps to complete wiring:

1. Connect the four Combus wires to the PC4401. Connect the red, black, yellow and green Combus wires to the RED, BLK, YEL and GRN terminals, respectively.
2. Connect terminals T1 and T2 to a normally closed tamper switch. If no tamper switch is desired, connect a jumper wire between T1 and T2 terminals.
3. Consult Diagram 1, below for more information.

**Diagram 1: Connecting the PC4401 as a Printer or DataLink Module**



*Data ink is not a nor C iste eature*

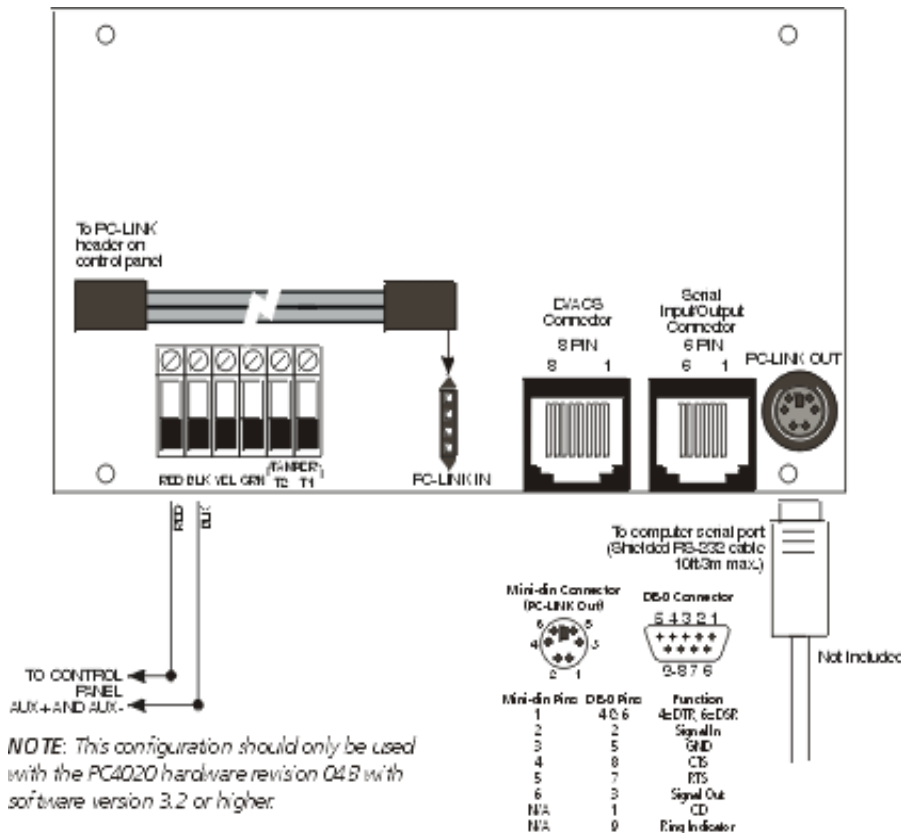
### 3.4 Wiring the PC4401 as a PC-LINK Isolator Module\*

Before beginning to wire the unit, ensure that all power (AC transformer and battery) is disconnected from the control panel.

Perform the following steps to complete wiring:

1. Connect the AUX+ and AUX- Combus wires of the control panel to the RED and BLK terminals on the PC4401.
2. Consult Diagram 2 below for more information.

**Diagram 2: Connecting the PC4401 as a PC-LINK Isolator Module**



### 3.5 Applying Power

After all wiring is completed, apply power to the control panel. Connect the battery leads to the battery, then connect the AC transformer. For more information on control panel power specifications, see the control panel Installation Manual.

**NOTE:** Do not connect the power until all wiring is complete.

PC-link Isolator is not a nor C iste eature

#### 4. Enrolling the Module

If you will be using the PC4401 as a printer or DataLink module, you must enroll it with the PC4020.

**NOTE:** If you will be using the PC4401 as a PC-LINK isolator, DO NOT enroll the PC4401.

1. Enter installer's programming by pressing [\*] [8] [Installer's Code].
2. Scroll to "Module Hardware" and press the [\*] key.
3. Scroll to "Enroll Module" and press the [\*] key.
4. Scroll through the different modules until "PC44XX RS-232" is displayed. Press the [\*] key.
5. The message "Create Tamper on Desired Unit" will be displayed. To create the required tamper, secure the tamper zone on the module and then open it. The transition from secure to violated enrolls the module. After this is done, the keypad will display the module number and will confirm enrollment (e.g. "PC44XX Mod 01 Enrolled").

For more information regarding module enrollment, see the control panel *Installation Manual*.

#### 5. Programming the Module

**NOTE:** If you will be using the PC4401 as a PC-LINK isolator, you will not need to do any programming for it.

To access PC4020 programming, enter [\*][8] followed by the Installer's code. The sections you will need to program are described below. For more information regarding programming, see the control panel *Installation Manual*.

The PC4401 module programming sections are located in the System Area section under the PC44XX options. Once you have entered installer's programming, enter the indicated reference number; OR use the [<] [>] keys to scroll through the programming options on the LCD display and press [\*] to select the desired option.

The following explains each programming option relevant to the PC4401.

##### 5.1 Baud Rate

**Ref. # [000800XX00]**, where XX = PC4401 module no.  
This section is used to program which Baud rate the PC4401 serial interface module will use to communicate with a serial printer. The Baud rate is the speed at which

information will be transmitted from the PC4401 module to the serial printer. There are five different Baud rates available to the PC4401 module: 300, 600, 1200, 2400 and 4800 Baud. If you are experiencing problems with missing characters, try lowering the Baud rate.

##### 5.2 Module Function

**Ref. # [000800XX00]**, where XX = PC4401 module no.  
In this section you must select which function you want the PC4401 to perform: Printer, DVACS, or DataLink.

To use the PC4401 as a printer module, you must select the Printer option in this section. Scroll to the message "Printer", then press [\*].

To use the PC4401 as a DataLink module, you must select the DataLink option in this section. Scroll to the message "DataLink", then press [\*].

To use the PC4401 as a PC-LINK isolator module, leave the programming of this section at the default setting.

**NOTE:** You may only program one function for each PC4401 module.

##### 5.3 Trouble Conditions

The control panel always watches for possible trouble conditions. If a trouble condition occurs, the keypad "Trouble" light will turn on and the keypad will beep. Press [\*][2] to display the trouble conditions.

The following trouble conditions apply to the PC4401 module. For a description of all troubles, please see your system *Installation Manual*. Reporting codes for these troubles can be programmed (ref. # [000403] OR scroll to **System Area**, then **Communicator**, then **Reporting Codes**).

- Printer Off-line
- PC44XX Trouble
- DataLink Off-line

If programmed, the panel can also send reporting codes for the following conditions:

- General System Tamper Alarm
- General System Tamper Restore

Record your reporting code choices in the panel's *Programming Worksheets* booklet.

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### Programming Worksheet

**Module Function** Ref # [000800XX00], where XX = PC4401 module number

- |  |  |
|--|--|
| <input type="checkbox"/> Not used (00) | <input type="checkbox"/> DVACS (02)    |
| <input type="checkbox"/> Printer (01)  | <input type="checkbox"/> DataLink (03) |

**Baud Rate** Ref # [000800XX01], where XX = PC4401 module number

- |                               |                               |                               |
|-------------------------------|-------------------------------|-------------------------------|
| <input type="checkbox"/> 300  | <input type="checkbox"/> 600  | <input type="checkbox"/> 1200 |
| <input type="checkbox"/> 2400 | <input type="checkbox"/> 4800 |                               |

## **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.

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.

## ***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.



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