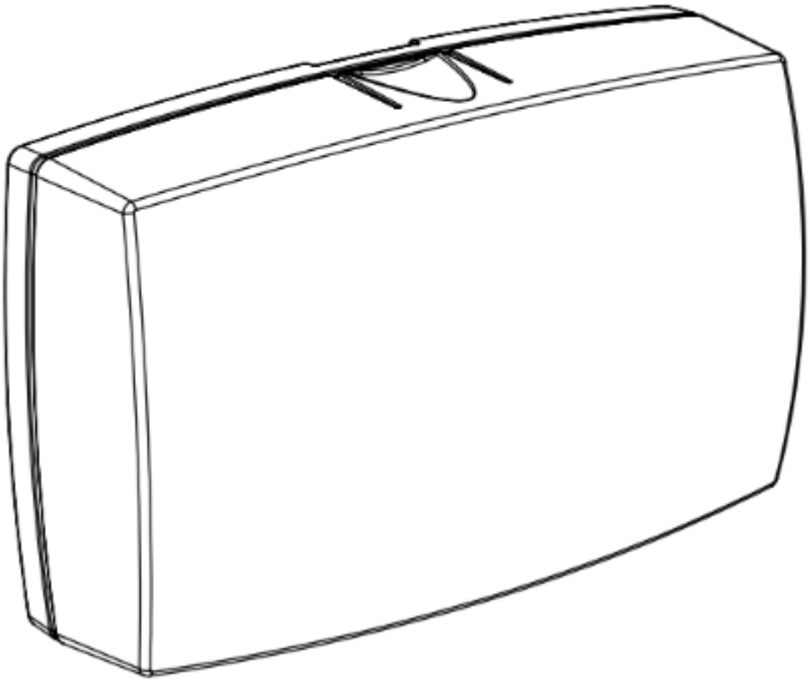
1-Door Controller

Installation Guide



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About the Key-In-Code 1-Door Controller

The Key-In-Code 1-Door Controller allows you to control a building access point with an electric locking mechanism and an access control reader.

Indicator LEDs

The 1-Door Controller provides two indicator LEDs:
• RELAY (red) turns on for the same duration as the locking mechanism open signal.
• POWER (green) indicates that the power is on.

Power Supply

The 1-Door Controller operates at 12 VDC from a separate power supply
Warning: To avoid the risk of equipment damage, do not exceed 750 mA total output current

Access Control

The 1-Door controller is designed to connect wirelessly to your access control software via Wi-Fi and BlueTooth connections.

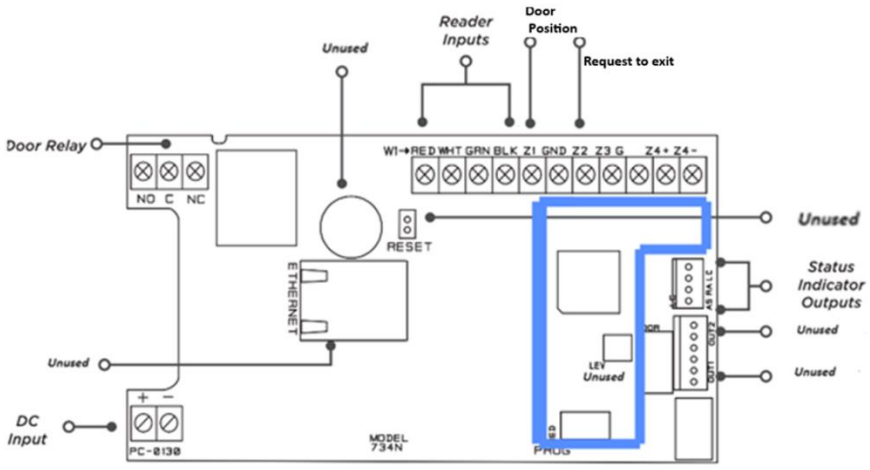
Form C Relay

The Form C relay draws up to 35 mA of current. Refer to “Wire the Access Control Lock”.

Wiegand Reader

The 1-Door Controller support access control readers that are compatible with the Wiegand interface standard.

PCB FEATURES



Installation

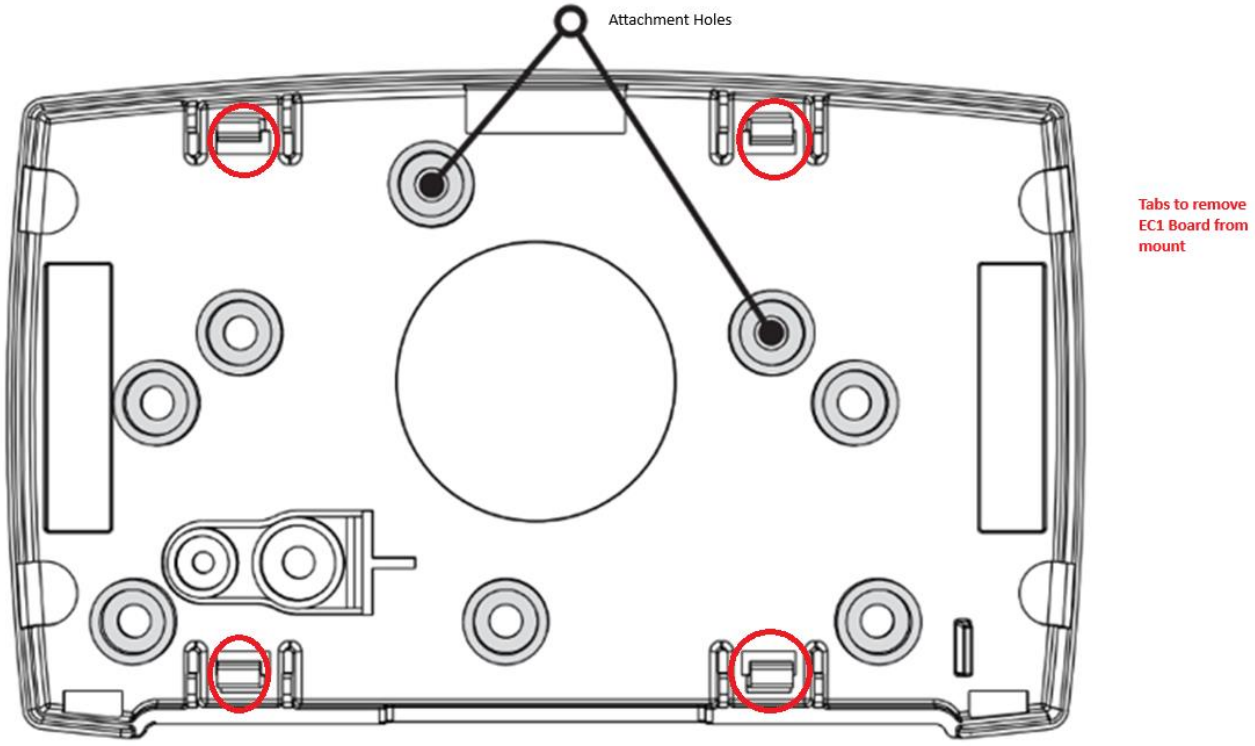
Mounting

The 1-Door Controller comes in a high-impact plastic housing that you can mount directly to a wall, backboard, or other flat surface.

For easy installation, the back and ends of the 1-door Controller housing have wire entrances. The back also contains multiple mounting holes that allow you to mount the controller directly to a flat surface or to a single-gang switch box. Key-In-Code recommends mounting the 1-Door Controller near the protected door. Refer to Mounting Holes graphic for mounting hole locations on the housing base.

1. Remove the PCB from the plastic housing by loosening the tabs (circled in red) on one side and gently lifting it out of the housing base.
2. Insert the included screws in the desired mounting hole locations and tighten them to secure the housing to the surface.
3. Reinstall the PCB in the housing base.

Mounting Holes



Access Control Mechanism Wiring

The 1-Door Controller provides a Form C (SPDT) relay for controlling locks and other electronically controlled barriers. The three relay terminals marked NO C NC allow you to connect the locking mechanism device wiring to the relay for control.

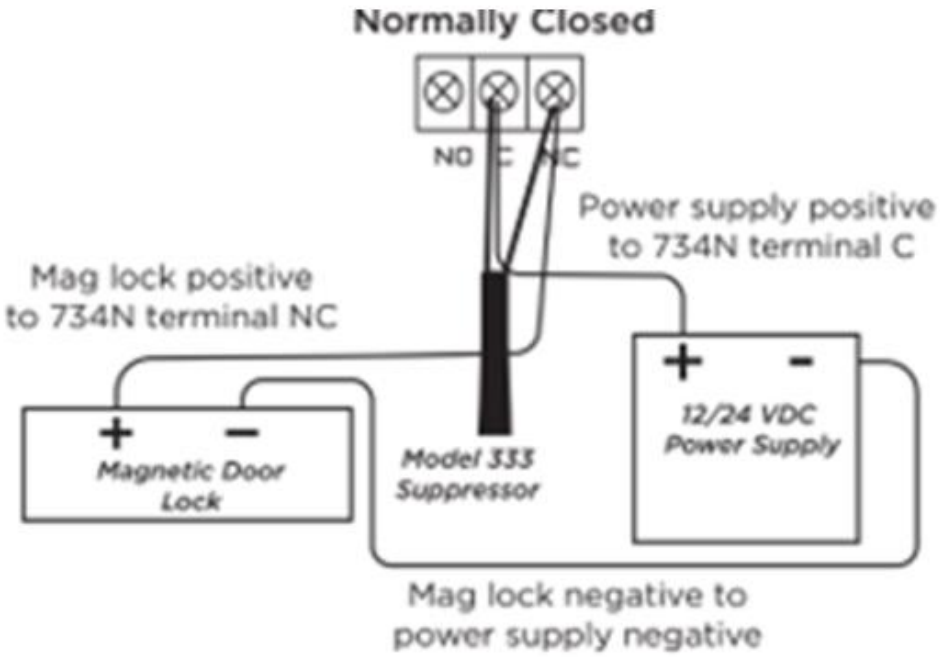
When the1-Door Controller is powered with a 12 VDC power supply, the device can power an electric strike or maglock locking mechanism types, up to 750 mA. See the wiring graphic for typical door strike (normally open) and magnetic lock (normally closed) wiring.

See also “Figure 1: Normally Open Wiring” and “Figure 2: Normally Closed Wiring” in next section, Example Wiring.

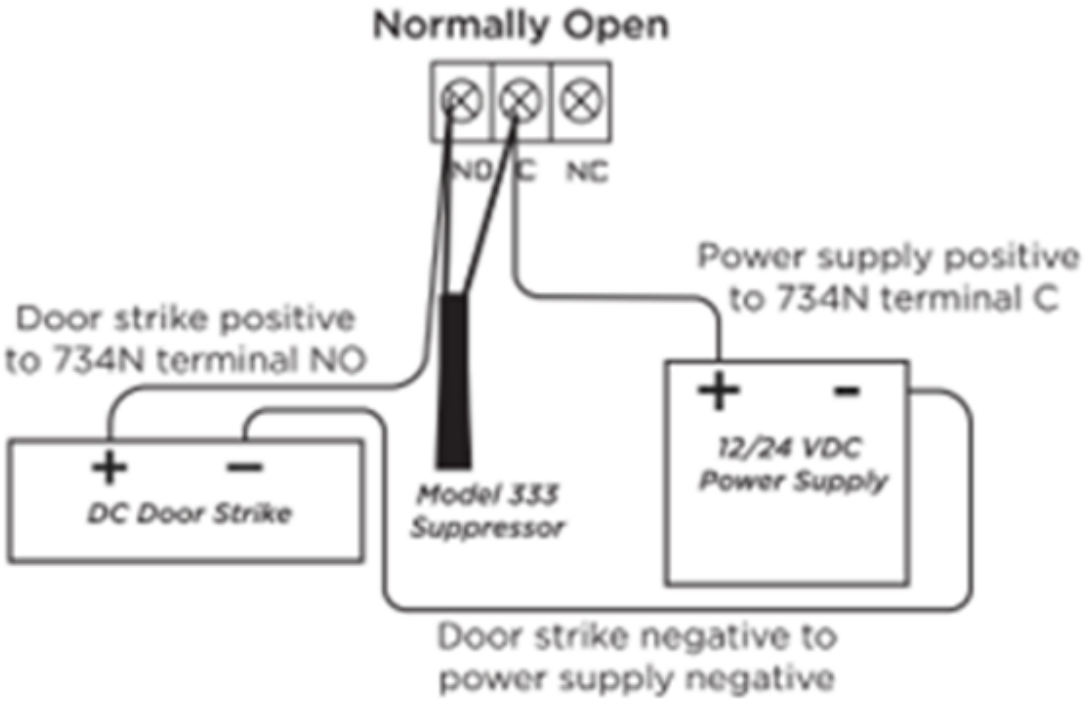
Install the included Model 333 Surge Suppressor across the controller’s C (common) and NO (normally open) or NC (normally closed) terminals, as shown in the following diagrams.

- If the device being controlled by the relay is connected to the NO and C terminals, install the suppressor on the NO and C terminals.
- Conversely, if the device is connected to the NC and C terminals, install the Suppressor on NC and C terminals.

Note: the suppressor wire is non-polarized.



Typical Maglock Device Wiring



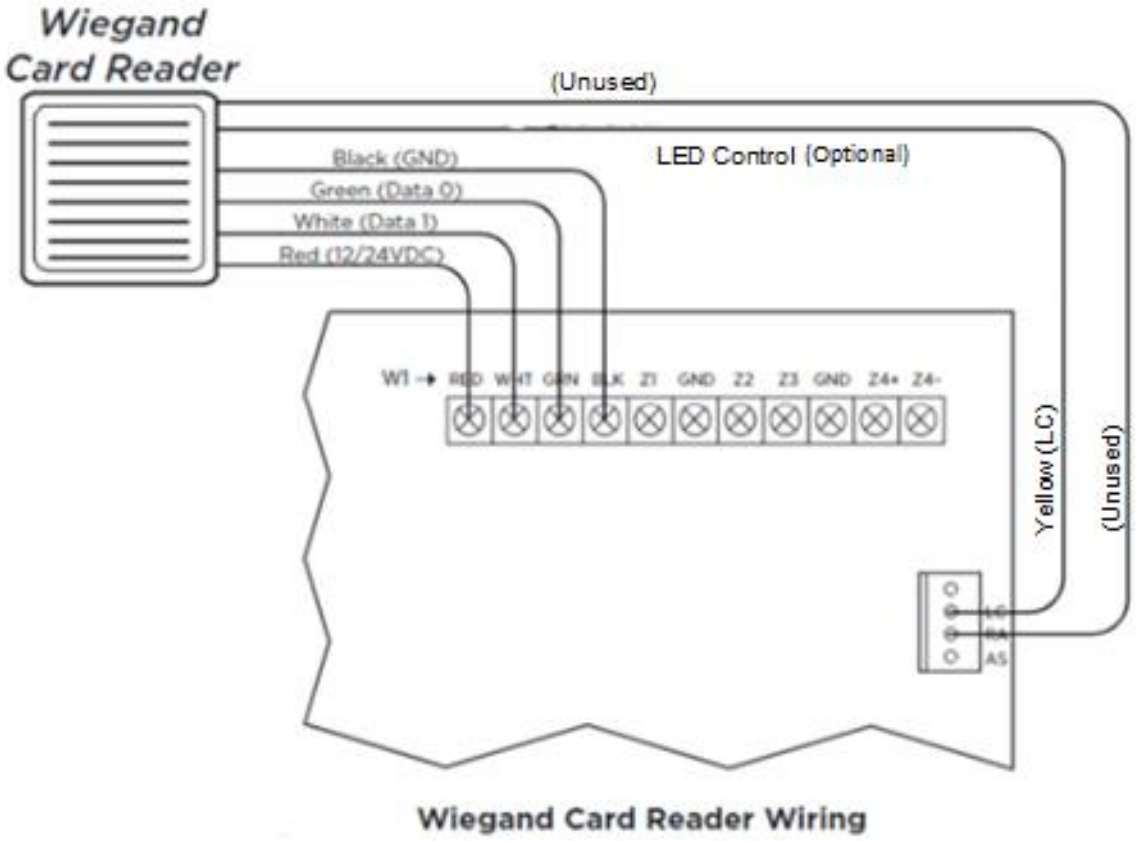
Typical Strike Device Wiring

Access Control Reader Wiring

The 1-Door Controller provides direct 12 VDC, 200 mA output to the reader.

The wiring diagram below shows a typical reader with wire colors Red (12V), White (Data 1), Green (Data 0), and Black (GND) connecting to Terminals RED, WHT, GRN, and BLK.

NOTE: Wire colors may be different depending on the reader being installed. Refer to the literature provided with the reader for wire coding, wire distance, cable type (such as shielded), and other specifications.



Wiegand Card Reader Wiring

Optional Wiring

LED/ Visual Indicator

The 1-Door Controller includes a wiring harness to connect to the four-pin connector on the PCB. If the reader is compatible, the yellow wire will turn on a LED/ visual indicator on the reader for the duration the locking mechanism is open.

Request to Exit

If required, a normally open Request to Exit device/button can be wired between terminals Z2 and GRD. Request to Exit button activation will result in door locking mechanism opening for a duration of 5 seconds before automatically relocking.

Door Position Sensor

If desired, a door position sensor device can be wired between terminals Z1 and GRD.

Power Supply Connection (Purchased Separately)

The 1-Door Controller is powered by an external 12V DC power supply.

To connect the power supply:

1. Remove the housing cover.
2. Refer to “PCB Feature” diagram on page 3 for DC power input terminal’s location.
3. Wire the power supply to the DC power terminals using 18 AWG (18/2; maximum distance 115 feet). Connect the positive DC connection to the terminal labelled “+” and the ground connection to the terminal labelled “-”.
4. Make sure to tighten and check connections. Incorrect connection to AC power or reversing/miswiring the power connections may damage the RC1.

Example Wiring

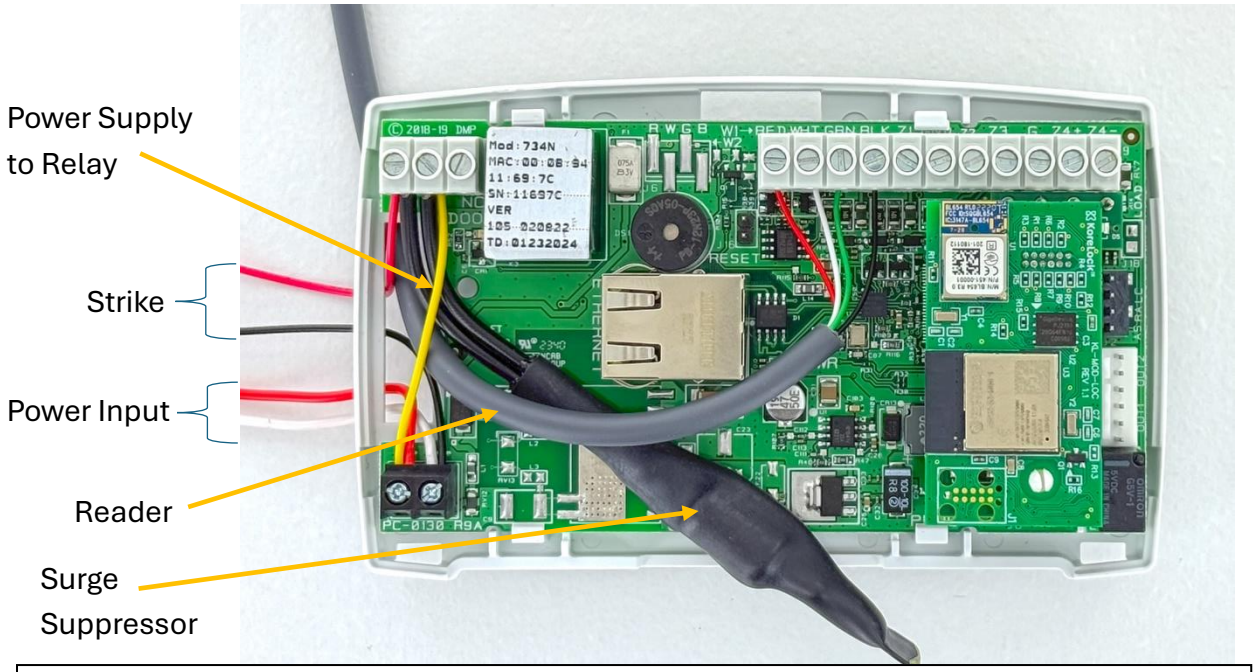


Figure 1: Normally Open Wiring: reader, surge suppressor, strike and power wires

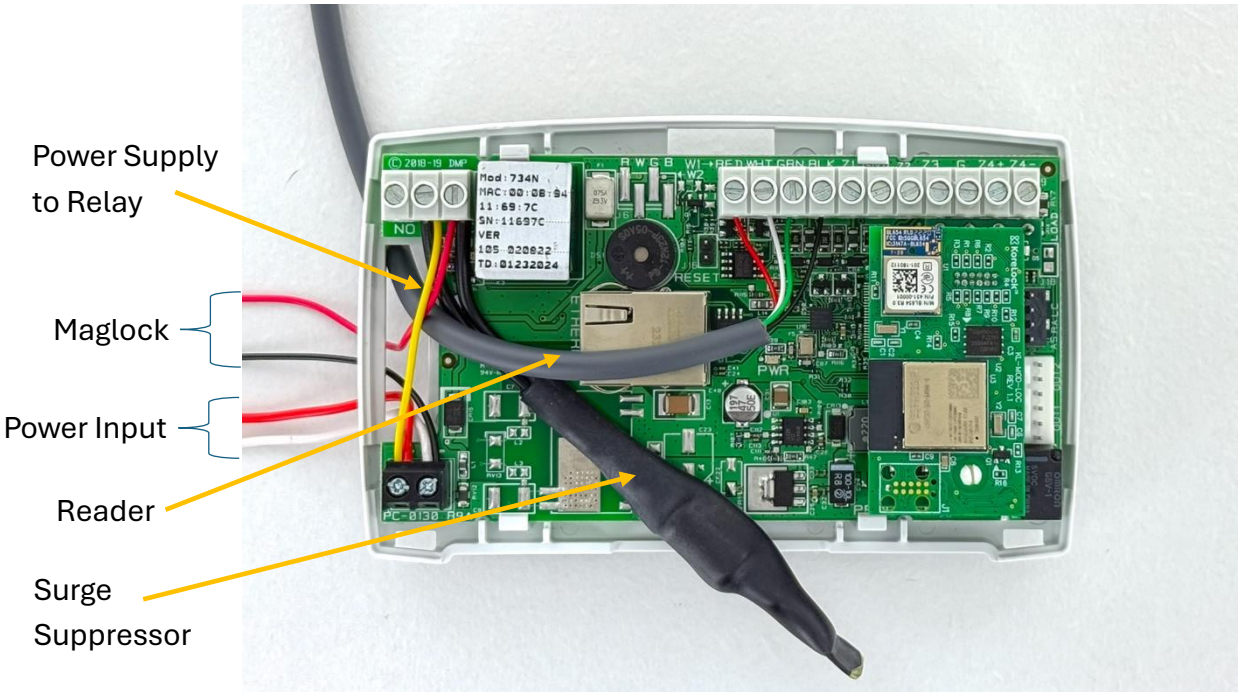


Figure 2: Normally Closed Wiring: reader, surge suppressor, maglock and power wires

Product Specifications

Voltage Requirements

12 VDC

Reader Output at 12 VDC supply: 10.12-13.13 VDC

Current Draw

Standby: 146 mA at 12 VDC (Excludes access control reader, see your chosen reader for specific reader standby current draw)

Form C Relay: 35 mA at 12VDC

Total Available Output Current

750 mA at 12VDC

Dimensions

4.5” W x 2.75” H x 1.75” D
(11.43 cm W x 7 cm H x 4.45 cm D)
Weight 8 oz (0.23 kg)

Compliance Information

UL Access Control

- The access relay must be configured as fail-safe or fail-secure as determined by the local Authority Having Jurisdiction (AHJ). This system is not intended to be used in place of listed panic hardware.
- For listed installations, the 1-Door Controller must be installed within the protected area.
- The power supply must be a listed power limited Class 2 with a compatible voltage range for the product.
- The 1-Door Controller requires a 12 VDC power source.

Electrical Specifications

- This device has been tested and complies with the FCC's Part 15 rules for Class A digital devices*
- This device has been tested and complies with the FCC's Part 15 rules for Class B digital devices**
- This product is not intended for outside wiring as covered by Article 800 in the National Electrical Code, NFPA 70.
- Compliance with IEEE 802.3 specifications was not verified as part of UL 294B.
- The equipment is intended to comply with the following sections of the National Electrical Code, ANSI/NFPA 725.121.

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

**NOTE: 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:

- Reorient or relocate 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/TV technician for help. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) This device must accept any interference received, including, an interference that may cause undesired operation. Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.