

TX3 Series

TX3 Nano



Installation Manual



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TX3 Nano Installation Manual Version 3.3

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1 Introduction

This manual provides information about the installation of the TX3 Nano, and must be read in its entirety before beginning any installation work.

Installation must be performed by a qualified technician and must adhere to the standards and special notices set by the local regulatory bodies.

Note: **Mircom periodically updates panel firmware and Configurator Software to add features and correct any minor inconsistencies. For information about the latest firmware or software visit the Mircom website at www.mircom.com.**

For warranty and special notices information see the Warranty and Special Notices chapter on page 29.

This chapter explains

- TX3 Nano Features
- Maximum Mounting Height
- TX3 Nano Products
- Additional Documentation

1.1 TX3 Nano Features

Mircom's TX3 Nano is an IP networkable audio and video entry panel providing multiple options to communicate with the resident or concierge in a multi-unit dwelling establishment.

Features of the TX3 Nano include:

- High quality intercom and paging device
- Programmable scrolling 4.3" color LCD display
- Speaker and microphone for two way audio
- Ability to make calls over PSTN and cellular network
- Ability to make one-way video calls over VOIP
- Color camera with IR LED for night vision
- Touch buttons for scrolling the directory and making calls

- Storage of up to 1000 names
- Hands-free full duplex communication
- Dials up to 20 digit telephone numbers
- System can be configured over an IP network

1.2 Maximum Mounting Height

Consult the regulations in your jurisdiction for the minimum and maximum mounting heights that comply with disability guidelines.

1.3 TX3 Nano Products

- **TX3-NANO-S4:** TX3 Nano Voice/Telephone Entry Communicator (Surface Mount)
- **TX3-NANO-S4-CA:** TX3 Nano Voice/Telephone Entry Communicator (Surface Mount with AT&T Cellular)
- **TX3-NANO-S4-CV:** TX3 Nano Voice/Telephone Entry Communicator (Surface Mount with Verizon Cellular)
- **TX3-NANO-S4-CT:** TX3 Nano Voice/Telephone Entry Communicator (Surface Mount with Telus Cellular)
- **TX3-NANO-S4-CR:** TX3 Nano Voice/Telephone Entry Communicator (Surface Mount with Rogers Cellular)

1.4 Additional Documentation

For additional documentation, see the following Mircom literature:

- LT-1194 TX3 Nano Configuration Manual
- LT-600212 TX3-NANO-BB Installation Instructions
- LT-6638 TX3 MiEntry Manual
- LT-600213 IP Telephony Guide
- LT-969 TX3 Telephone Access System Installation and Operation Manual
- LT-6906 UL TX3-CX Card Access System Manual
- LT-995 TX3 Touch Screen Configuration and Administration Manual
- LT-6082 Unified Building Solution Administration Guide

2 Mounting

This chapter explains

- Contents of the Kit
- Dimensions
- Before Mounting, Apply Silicone to the Back of the Mounting Plate
- Install the Mounting Plate
- Fasten the TX3 Nano onto the Mounting Plate
- Unmount

2.1 Contents of the Kit

- TX3 Nano
- Mounting plate
- Paper mounting template
- Double-sided screwdriver for the terminal block and the tamper-resistant screw
- 2 tamper-resistant screws
- USB flash drive with manuals

Note: Mircom sells a postal lock adapter: part number DO-CR3.

2.2 Dimensions

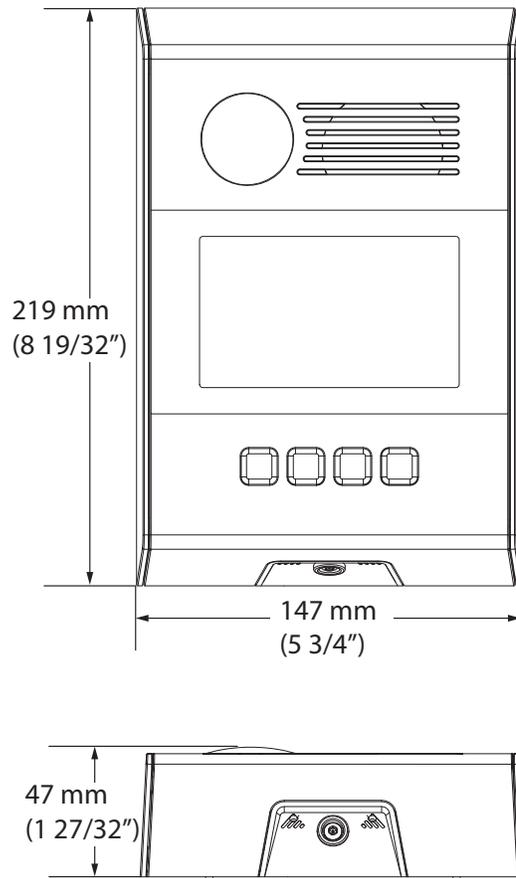


Figure 1. Dimensions of the TX3 Nano

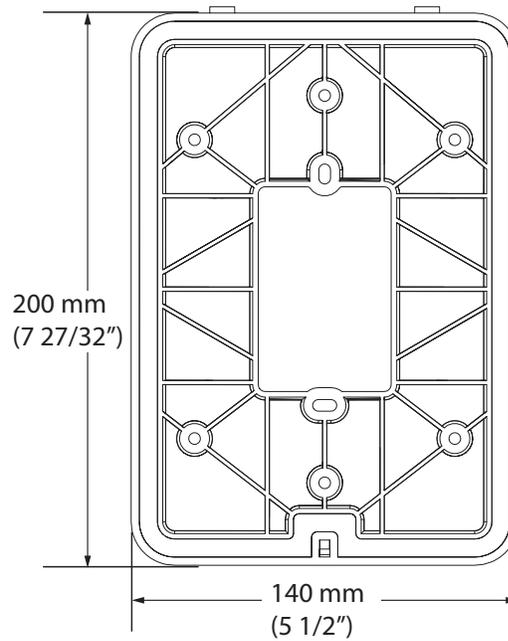


Figure 2. Dimensions of the mounting plate

Tools needed for wiring and mounting:

- Outdoor-rated weatherproof silicone
- Weatherproof self-sealing fasteners (for TX3-NANO-BB)
- Philips screwdriver
- Wire cutter
- Wire stripper

2.3 Before Mounting, Apply Silicone to the Back of the Mounting Plate

- If you are mounting the TX3 Nano outside, apply outdoor-rated weatherproof silicone to the groove in the back of the mounting plate to prevent water from flowing around the mounting plate and into the TX3 Nano. In Figure 3, the groove is shown in solid black.

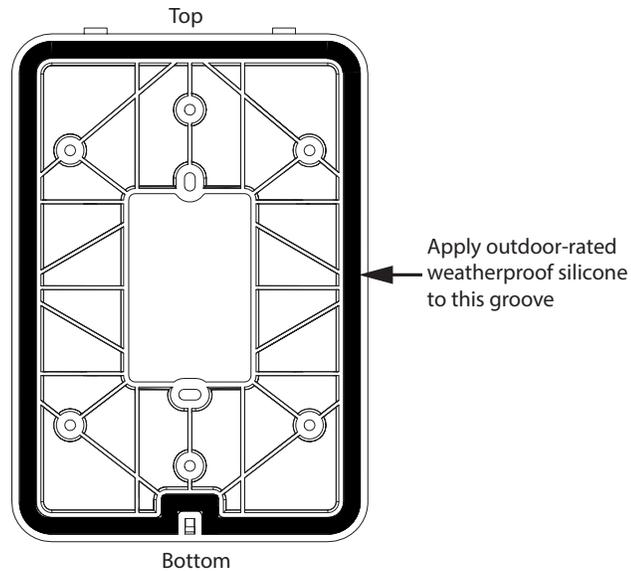


Figure 3. Mounting plate (back view): apply silicone to the groove

Warning: Do not apply silicone to any other part of the TX3 Nano. Apply weatherproof silicone to the groove in the mounting plate only.

2.4 Install the Mounting Plate

Warning: Always use the TX3-NANO-BB backbox in outdoor installations.

Do not mount the TX3 Nano in direct sunlight.

- Mount the mounting plate the right way up. The 2 hooks are on top and the screw hole is on the bottom as shown in Figure 3.

Note: The mounting plate comes with a rubber seal around the edge (Figure 4). Do not remove, cut, or damage this rubber seal in any way.

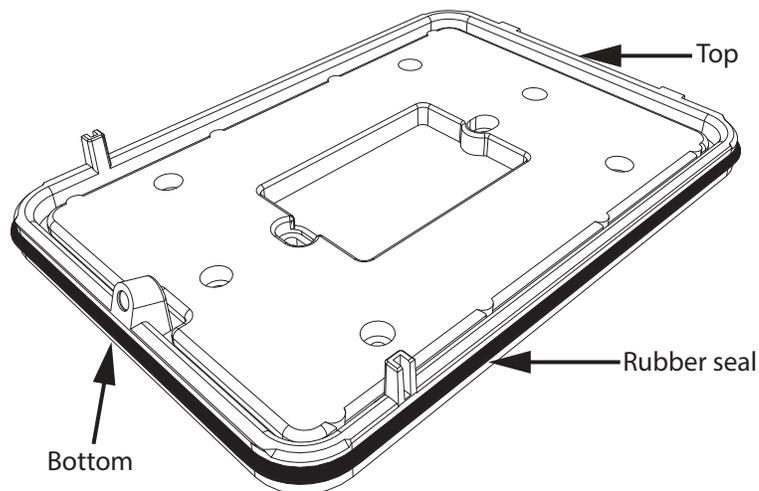


Figure 4. Do not damage the rubber seal

You can mount the TX3 Nano in two ways:

1. To the optional TX3-NANO-BB surface mounting box (section 2.4.1)
2. To the wall (section 2.4.2)

2.4.1 Option 1: Attach the mounting plate to TX3-NANO-BB

Warning: Always use the TX3-NANO-BB backbox in outdoor installations.

Do not mount the TX3 Nano in direct sunlight.

1. To prevent water from flowing into the TX3-NANO-BB mounting box, apply outdoor-rated weatherproof silicone around the 4 holes on the back of the mounting box (the side against the wall) as shown in Figure 5. If you remove the knockout, apply outdoor-rated weatherproof silicone around that hole as well.

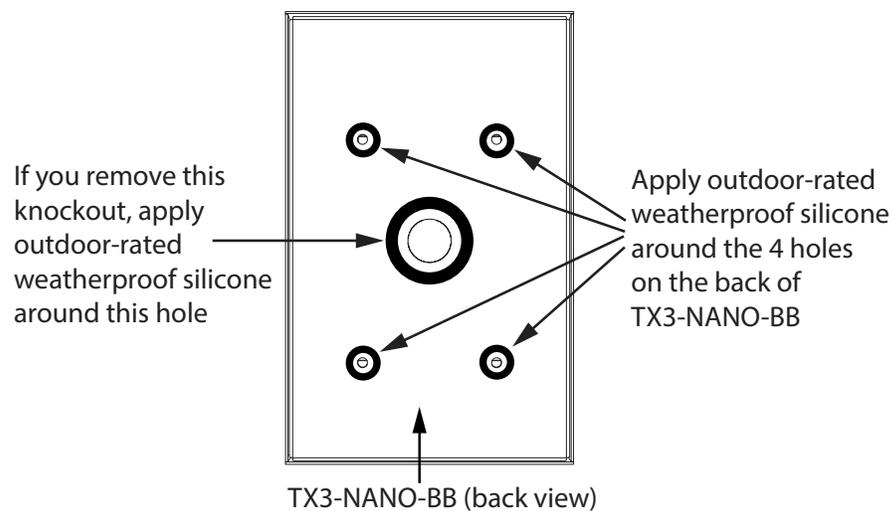


Figure 5. Apply silicone around the holes on the back of TX3-NANO-BB

2. Mount TX3-NANO-BB to the wall with 4 fasteners appropriate for the type of wall.

3. Attach the TX3 Nano mounting plate over the TX3-NANO-BB with the included 6 screws as shown in Figure 6.

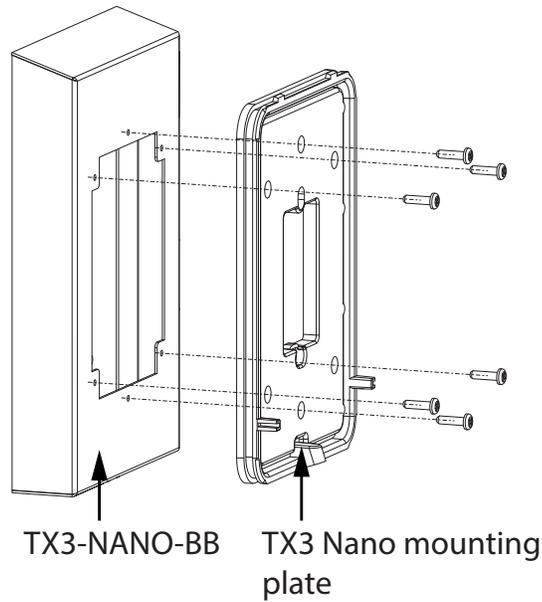


Figure 6. Install the mounting plate to TX3-NANO-BB

2.4.2 Option 2: Attach the mounting plate to the wall

Warning: Do not mount the TX3 Nano in direct sunlight.

1. Attach the mounting plate to the wall with at least 6 fasteners appropriate for the type of wall as shown in Figure 7.

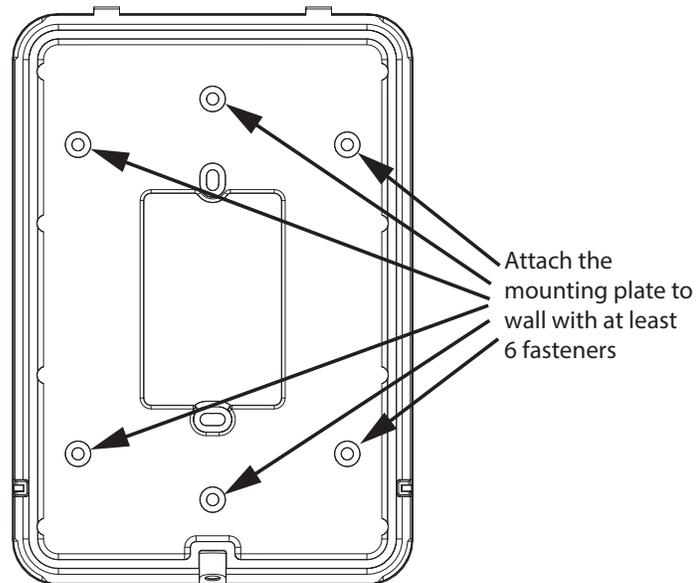


Figure 7. Front view of mounting plate showing 6 mounting holes

If you are using an electrical gang box, use 2 screws to align the mounting plate with the gang box, as shown in Figure 8.

Warning: Do not attach the mounting plate to the wall with the 2 holes shown in Figure 8. Always secure the mounting plate to the wall with at least 6 fasteners as shown in Figure 7.

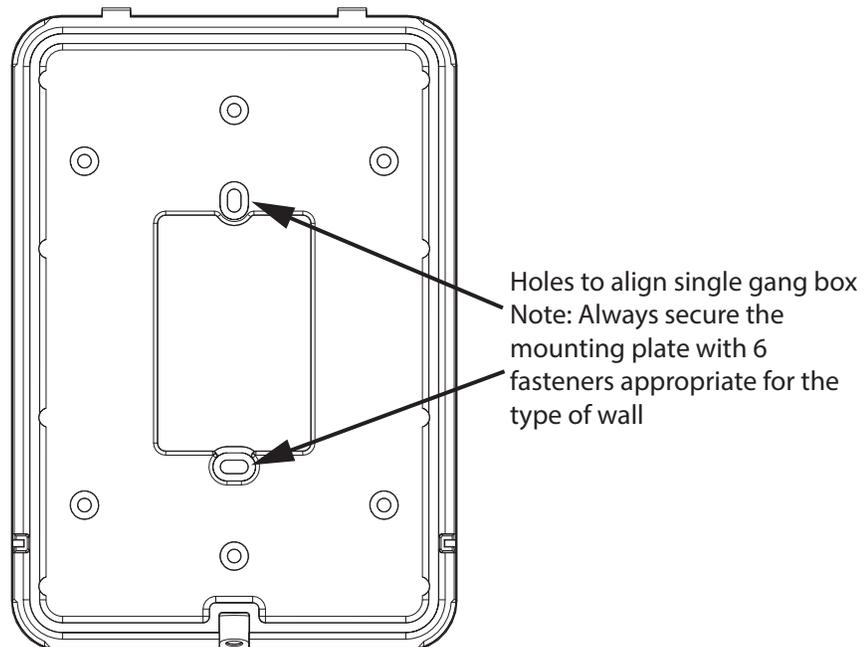


Figure 8. Holes for aligning mounting plate to gang box

2.5 Fasten the TX3 Nano onto the Mounting Plate

Warning: The TX3 Nano has a tamper feature. To prevent unnecessary noise during installation, there is a factory-installed label over the tamper switch. Remove this label before mounting the TX3 Nano. If this label is not removed, then the tamper feature will not work.

After the label is removed, a tone sounds when the TX3 Nano is powered on and not mounted on the mounting plate. The tone stops sounding when the TX3 Nano is mounted. The TX3 Nano does not operate until the tamper alarm is restored.

1. Fit the top of the TX3 Nano onto the two hooks on the mounting plate.

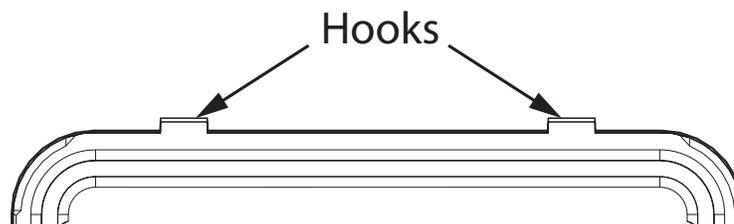


Figure 9. Hooks at the top of the mounting plate

2. Press the TX3 Nano onto the mounting plate.

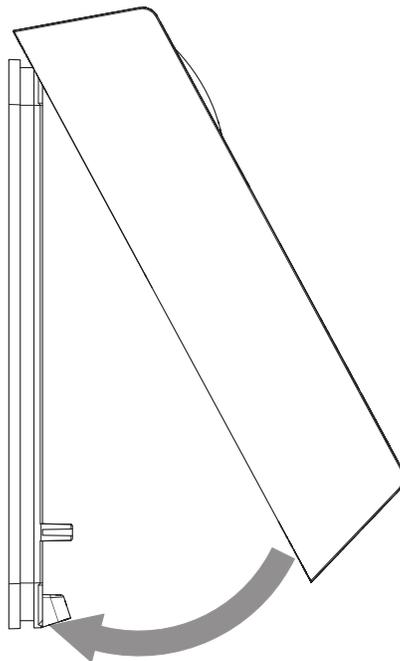


Figure 10. Press the TX3 Nano on to the mounting plate

3. Secure the TX3 Nano to the mounting plate with the provided tamper-resistant screw and screwdriver.

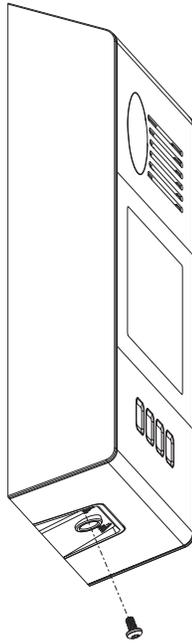


Figure 11. Secure the TX3 Nano to the mounting plate

2.6 Unmount

1. Use the included bit to remove the security screw from the bottom of the TX3 Nano.
2. Tilt the TX3 Nano up and off the mounting plate.

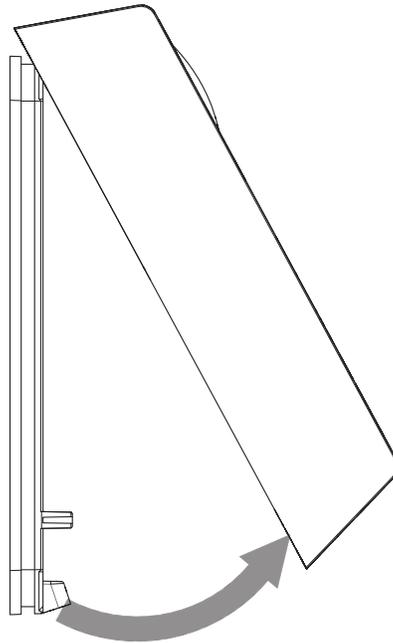


Figure 12. Unmount the TX3 Nano

3 Wiring

This chapter explains

- Wiring
- RJ45 Connector
- USB Port and Switch
- Slot for mini-SIM Card
- Screw for Adjusting Camera Tilt
- Inputs
- Input Supervision
- Output
- Telephone Line
- Power

3.1 Wiring

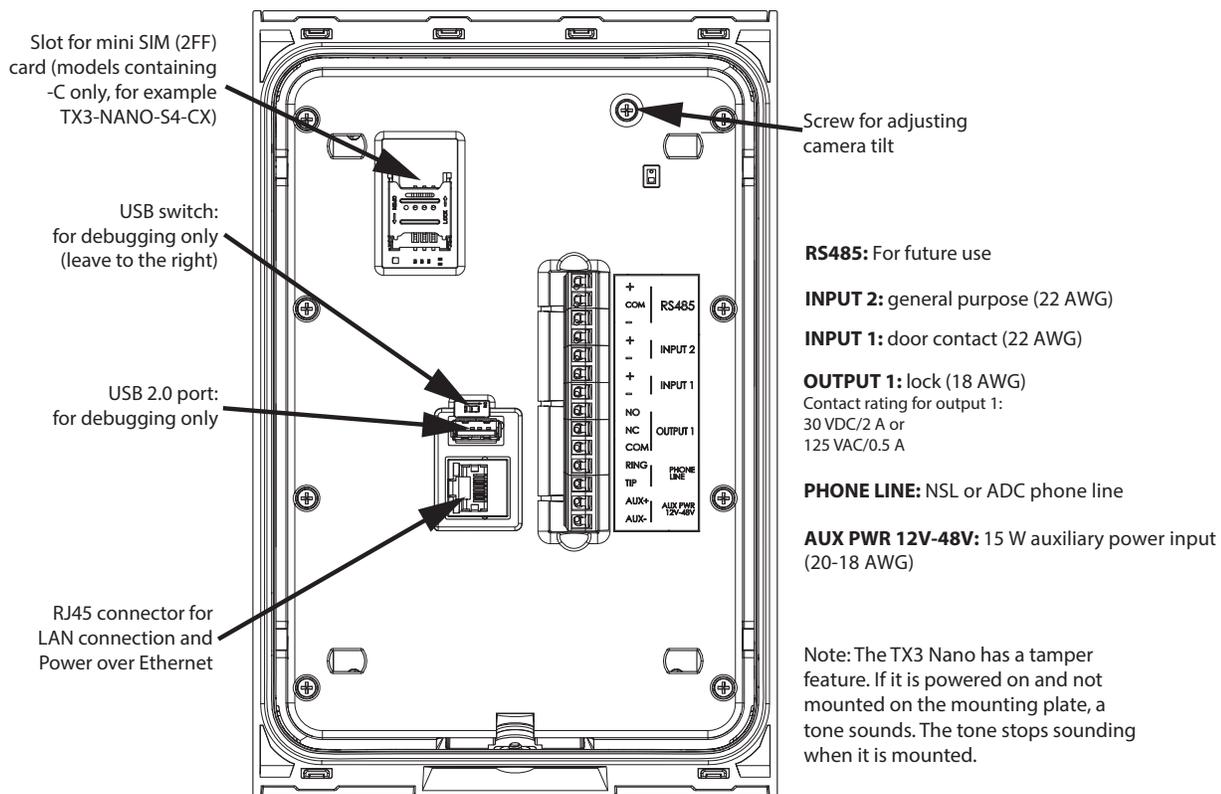


Figure 13. Back of the TX3 Nano

3.1.1 Wiring Tips

- Perform visual inspection of the parts for obvious issues.
- Group the incoming wires through the hole in the mounting plate. Use a wire tie to group wires for easy identification and neatness.
- The terminal block is designed to fit one way only. Insert it with the screws facing left as shown in Figure 14.

3.1.2 Maximum Wiring Lengths

- Inputs: 305 m (1000 ft) at 22 AWG
- PoE: 100 m (328 ft)
- USB: 2.4 m (8 ft)
- Outputs: consult the documentation for the door strike or maglock

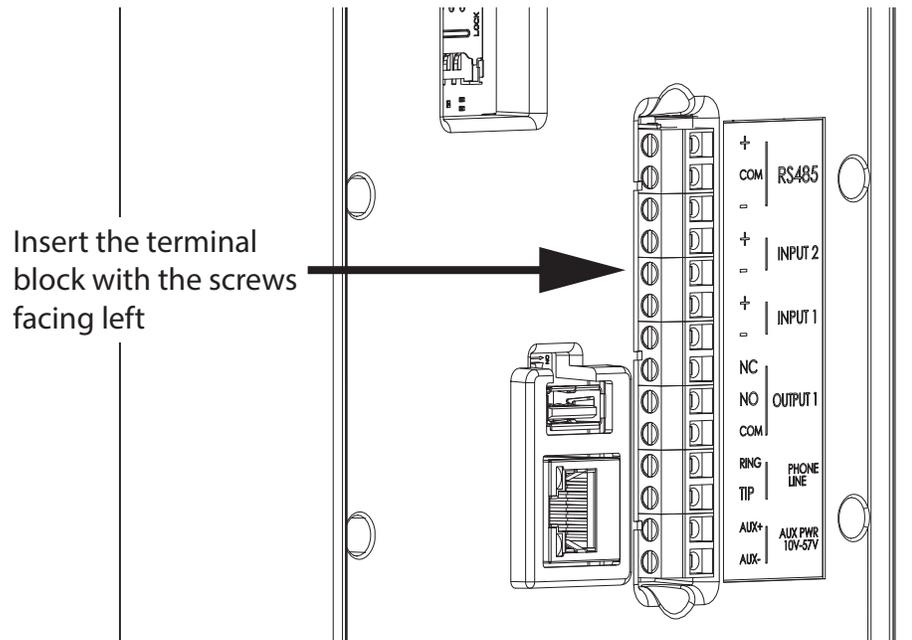


Figure 14. The terminal block

3.2 RJ45 Connector

Connect the RJ45 connector to a PoE (Power over Ethernet)-powered router or switch. The RJ45 connector provides power through PoE, and also provides a connection to the LAN for configuration.

3.3 USB Port and Switch

The USB port and switch are for debugging. Leave the switch at its factory position (on the right).

3.4 Slot for mini-SIM Card

On TX3 Nano models with -C (for example, TX3-NANO-S4-CX), insert a mini-SIM (2FF) card into this slot to allow the TX3 Nano to make cellular calls.

Insert a SIM Card

1. Slide the metal holder down and pull out.
2. Carefully insert the SIM card in the slot with the label facing out and the notch on the upper left.

Warning: Make sure that the SIM card does not fall into the TX3 Nano.

3. Close the metal holder and slide it up.

3.5 Screw for Adjusting Camera Tilt

Tighten this screw to tilt the camera down, and loosen the screw to tilt the camera up.

The camera tilt can be adjusted up to 10° vertically.

3.6 Inputs

For details on programming the inputs, see LT-1194 “TX3 Nano Configuration Manual”.

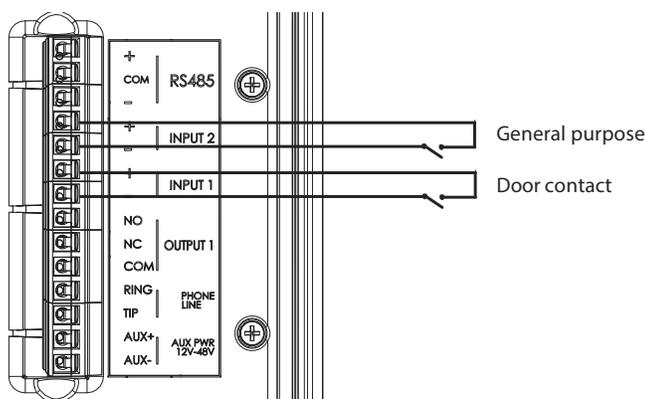


Figure 15. Input terminal sample connections

3.6.1 Input 1: Door contact

By default, Input 1 is configured as a door contact. Connect Input 1 to the door sense switch. When the door is open the input is active and when the door is closed the input is inactive.

3.6.2 Input 2: General purpose

By default, Input 2 is configured as a general purpose input.

3.7 Input Supervision

The input's active state can be configured as either `Open` or `Close`. The default is `Close`.

There are some restrictions in configuring the active state depending on what kind of supervision is required.

Each input can be configured for a specific type of supervision as follows:

- No supervision
- Supervise for open
- Supervise for short
- Supervise for open and short

3.7.1 No supervision

When the input is configured for no supervision, the active state is either Open or Close. No end of line resistor is required in this case.

3.7.2 Supervised for open

When the input is supervised for open, the active state in the Configurator is Close. This scheme requires a single 47 k Ω end of line resistor.

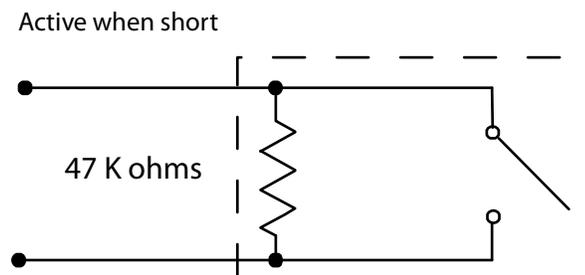


Figure 16. Input - Supervised for Open

Note: The switch's active state cannot be an open state.

3.7.3 Supervise for short

When supervised for short, the active state in the Configurator is Open. A single 47 kΩ resistor is required for short supervision as shown below.

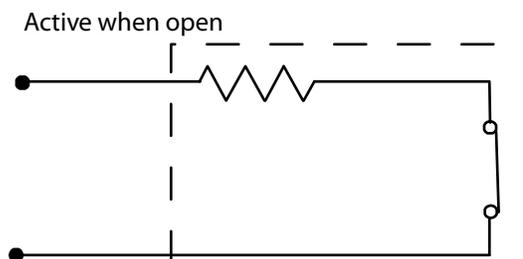


Figure 17. Input - Supervised for Short

Note: The switch's active state cannot be a short state.

3.7.4 Supervised for open and short

When supervised for both open and short, the active state cannot be open, therefore the active state in the Configurator is Close.

Two 22 kΩ resistors are required for supervision.

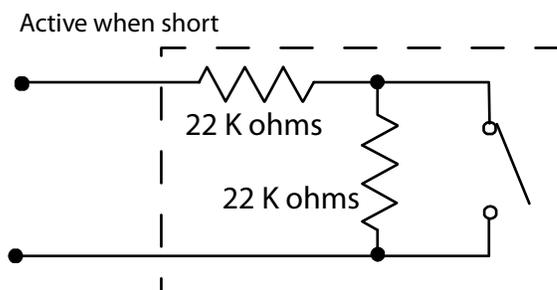


Figure 18. Input - Supervised for Open and Short

Note: The switch's active state cannot be an open state.

3.8 Output

1 Form C dry contact relay with these contact ratings:

- 30 VDC/2 A or
or
- 125 VAC/0.5 A

By default, the output is configured as a lock. Connect the output to a door strike or maglock. When access is granted, the output unlocks the door. For details on programming the output, see LT-1194 “TX3 Nano Configuration Manual”.

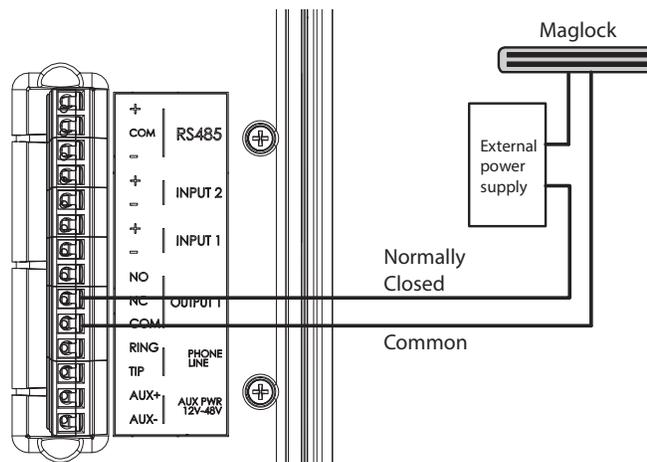


Figure 19. Sample Maglock connection

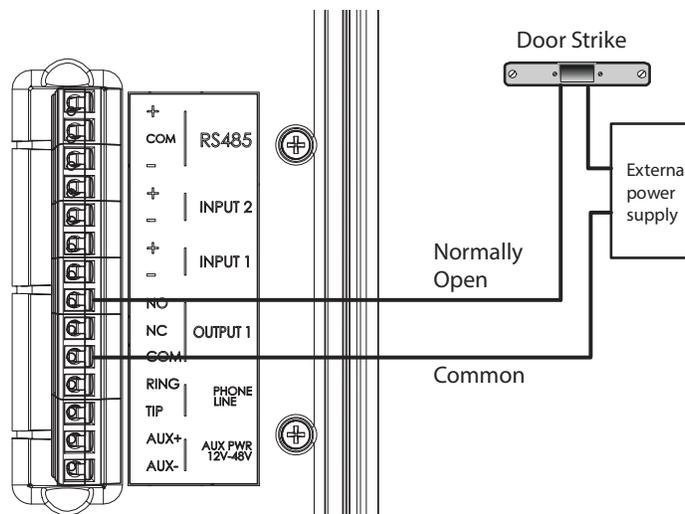


Figure 20. Sample door strike connection

3.9 Telephone Line

The telephone lines are located above the auxiliary power connection.

Both NSL (no subscriber line) and ADC (autodialer controller) lines can be connected. The R and T lines are polarity insensitive and can be reversed.

Note: Non-configurable PBX systems are not supported. For more information, contact technical support at Mircom.

The on hook voltage should be between 22 V and 60 V.

The off-hook voltage should be between 3 V and 9 V

The TX3 Nano has voice activity detection and call progress tone detection to determine if someone has picked up the phone or if the line is busy.

The telephone line is compatible with the TX3 NSL relay cabinet.

3.10 Power

Note: If the TX3 Nano is not using PoE for power, then connect the Ethernet cable before connecting the power supply.

3.10.1 PoE

Connect the RJ45 connector to a PoE (Power over Ethernet)-powered router or switch. The RJ45 connector provides power through PoE, and also provides a connection to the LAN for configuration. If you use a PoE injector, it should provide at least 15 W.

3.10.2 12-48 VDC

If Power over Ethernet is not available, use the 12-48 VDC / 15 W auxiliary power input.

3.11 Connecting a Postal Lock

Mircom sells a postal lock adapter: part number DO-CR3.

- Connect the wires from the postal lock to one of the inputs on the TX3 Nano.

4 Specifications

Dimensions
219 mm x 147 mm x 47 mm (8 19/32" x 5 3/4" x 1 27/32")
Weight
TX3-NANO-S4: 0.88 kg (1.95 lbs) TX3-NANO-S4-CA, TX3-NANO-S4-CV, TX3-NANO-S4-CT, TX3-NANO-S4-CR: 0.9 kg (2 lbs)
Power over Ethernet
IEEE 802.3af/at
Auxiliary Power input
12-48 VDC / 15 W
Output 1
1 Form C dry contact relay with these contact ratings: <ul style="list-style-type: none"> • 30 VDC/2 A or • 125 VAC/0.5 A
Display
colour TFT, 4.3", 480x272, high brightness (800 nits)
Camera
5 megapixel with autofocus and IR LED for night vision
Speaker
1 W nominal, 2 W maximum
Audio Codec
G.711 μ -law
Video Codec
H.263 H.263+ H.264 MPEG-4

Operating Temperature
-30° C to 50° C (-22° F to 122° F)
Connections
2 inputs 1 output 1 phone line connection 1 auxiliary power input 1 Ethernet 10/100 PoE+ port 1 USB 2.0 port 1 slot for mini-SIM (2FF) card

5 Warranty and Warning Information

WARNING!

Please read this document **CAREFULLY**, as it contains important warnings, life-safety, and practical information about all products manufactured by the Mircom Group of Companies, including Mircom and Secutron branded products, which shall include without limitation all fire alarm, nurse call, building automation and access control and card access products (hereinafter individually or collectively, as applicable, referred to as “**Mircom System**”).

NOTE TO ALL READERS:

1. **Nature of Warnings.** The within warnings are communicated to the reader out of an abundance of caution and create no legal obligation for Mircom Group of Companies, whatsoever. Without limiting the generality of the foregoing, this document shall NOT be construed as in any way altering the rights and obligations of the parties, governed by the legal documents that apply in any given circumstance.
2. **Application.** The warnings contained in this document apply to all Mircom System and shall be read in conjunction with:
 - a. the product manual for the specific Mircom System that applies in given circumstances;
 - b. legal documents that apply to the purchase and sale of a Mircom System, which may include the company’s standard terms and conditions and warranty statements;
 - c. other information about the Mircom System or the parties’ rights and obligations as may be application to a given circumstance.
4. **Security and Insurance.** Regardless of its capabilities, no Mircom System is a substitute for property or life insurance. Nor is the system a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation. Building automation systems produced by the Mircom Group of Companies are not to be used as a fire, alarm, or life-safety system.

NOTE TO INSTALLERS:

All Mircom Systems have been carefully designed to be as effective as possible. However, there are circumstances where they may not provide protection. Some reasons for system failure include the following. As the only individual in contact with system users, please bring each item in this warning to the attention of the users of this Mircom System. Failure to properly inform system end-users of the circumstances in which the system might fail may result in over-reliance upon the system. As a result, it is imperative that you properly inform each customer for whom you install the system of the possible forms of failure:

5. **Inadequate Installation.** All Mircom Systems must be installed in accordance with all the applicable codes and standards in order to provide adequate protection. National standards require an inspection and approval to be conducted by the local authority having jurisdiction following the initial installation of the system and following any changes to the system. Such inspections ensure installation has been carried out properly.
6. **Inadequate Testing.** Most problems that would prevent an alarm a Mircom System from operating as intended can be discovered by regular testing and maintenance. The complete system should be tested by the local authority having jurisdiction immediately after a fire, storm, earthquake, 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.

NOTE TO USERS:

All Mircom Systems have been carefully designed to be as effective as possible. However, there are circumstances where they may not provide protection. Some reasons for system failure include the following. The end user can minimize the occurrence of any of the following by proper training, testing and maintenance of the Mircom Systems:

7. **Inadequate Testing and Maintenance.** It is imperative that the systems be periodically tested and subjected to preventative maintenance. Best practices and local authority having jurisdiction determine the frequency and type of testing that is required at a minimum. Mircom System may not function properly, and the occurrence of other system failures identified below may not be minimized, if the periodic testing and maintenance of Mircom Systems is not completed with diligence and as required.
8. **Improper 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. A Mircom System may not function as intended during an emergency situation where the user is

unable to operate a panic or emergency switch by reason of permanent or temporary physical disability, inability to reach the device in time, unfamiliarity with the correct operation, or related circumstances.

9. **Insufficient Time.** There may be circumstances when a Mircom 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 enough to protect the occupants or their belongings.
10. **Carelessness or Safety Hazards.** Moreover, 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 or children playing with matches or arson.
11. **Power Failure.** Some Mircom System components require adequate electrical power supply to operate. Examples include: smoke detectors, beacons, HVAC, and lighting controllers. 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 Mircom Systems or other electronic equipment. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.
12. **Battery Failure.** If the Mircom System or any device connected to the system operates from batteries it is possible for the batteries to fail. Even if the batteries have not failed, they must be fully charged, in good condition, and installed correctly. Some Mircom Systems use replaceable batteries, which have a limited life-span. The expected battery life is variable and in part dependent on 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. Moreover, some Mircom Systems do not have a battery monitor that would alert the user in the event that the battery is nearing its end of life. Regular testing and replacements are vital for ensuring that the batteries function as expected, whether or not a device has a low-battery monitor.
13. **Physical Obstructions.** Motion sensors that are part of a Mircom System must be kept clear of any obstacles which impede the sensors' ability to detect movement. Signals being communicated by a Mircom System may not reach the receiver if an item (such as metal, water, or concrete) is placed on or near the radio path. Deliberate jamming or other inadvertent radio signal interference can also negatively affect system operation.
14. **Wireless Devices Placement Proximity.** Moreover all wireless devices must be a minimum and maximum distance away from large metal objects, such as refrigerators. You are required to consult the specific Mircom System manual and application guide for any maximum distances required between devices and suggested placement of wireless devices for optimal functioning.

15. **Failure to Trigger Sensors.** Moreover, Mircom Systems may fail to operate as intended if motion, heat, or smoke sensors are not triggered.
 - a. Sensors in a fire system may fail to be triggered when the fire is in a chimney, walls, roof, or on the other side of closed doors. Smoke and heat detectors may not detect smoke or heat from fires on another level of the residence or building. In this situation the control panel may not alert occupants of a fire.
 - b. Sensors in a nurse call system may fail to be triggered when movement is occurring outside of the motion sensors' range. For example, if movement is occurring on the other side of closed doors or on another level of the residence or building the motion detector may not be triggered. In this situation the central controller may not register an alarm signal.
3. **Interference with Audible Notification Appliances.** Audible notification appliances may be interfered with by other noise sources such as stereos, radios, televisions, air conditioners, appliances, or passing traffic. Audible notification appliances, however loud, may not be heard by a hearing-impaired person.
4. **Other Impairments.** Alarm notification appliances such as sirens, bells, horns, or strobes may not warn or waken a sleeping occupant if there is an intervening wall or door. It is less likely that the occupants will be alerted or awakened when notification appliances are located on a different level of the residence or premise.
5. **Software Malfunction.** Most Mircom Systems contain software. No warranties are provided as to the software components of any products or stand-alone software products within a Mircom System. For a full statement of the warranties and exclusions and limitations of liability please refer to the company's standard Terms and Conditions and Warranties.
6. **Telephone Lines Malfunction.** Telephone service can cause system failure where telephone lines are relied upon by a Mircom System. Alarms and information coming from a Mircom System may not be transmitted if a phone line is out of service or busy for a certain period of time. Alarms and information may not be transmitted where telephone lines have been compromised by criminal tampering, local construction, storms or earthquakes.
7. **Component Failure.** Although every effort has been made to make this Mircom System as reliable as possible, the system may fail to function as intended due to the failure of a component.
8. **Integrated Products.** Mircom System might not function as intended if it is connected to a non-Mircom product or to a Mircom product that is deemed non-compatible with a particular Mircom System. A list of compatible products can be requested and obtained.

Warranty

Purchase of all Mircom products is governed by:

<https://www.mircom.com/product-warranty>

<https://www.mircom.com/purchase-terms-and-conditions>

<https://www.mircom.com/software-license-terms-and-conditions>

6 Special Notices

Product Model Number: TX3

AC REN (U.S.): 0.2B

AC REN (CANADA): 0.2B

Complies With

- FCC Part15, Subpart B, Class B - Unintentional Radiators
- FCC Part 15 Subpart C - Intentional Radiators
- TIA-968-B and TIA-968-B-2:2015 Addendum 2 (Technical requirements for connection of terminal equipment to the telephone network)
- ISED CS-03 Issue 9. Part I - Compliance Specification for Terminal Equipment, Terminal Systems, Network Protection Devices, Connection Arrangements and Hearing Aids Compatibility
- ISED Canada ICES-003, Issue 6, Class B - Information Technology Equipment (Including Digital Apparatus)

This device complies with Part 15 / ICES-003 of the FCC / Industry Canada 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 interference that may cause undesired operation.

Identifiers

FCC:

- BLE Module: WAP2001
- Cellular Module (TX3-NANO-S4-CA, TX3-NANO-S4-CT, TX3-NANO-S4-CR): XMR201606EC21A
- Cellular Module (TX3-NANO-S4-CV): XMR201609EC21V

IC:

- BLE Module: 7922A-2001
- Cellular Module (TX3-NANO-S4-CA, TX3-NANO-S4-CT, TX3-NANO-S4-CR): 10224A-201611EC21A
- Dialer Module: IC:1156A-TX3NANO

ACTA:

- Dialer Module: US:1M8OT02BTX3NANO

Industry Canada Notice for all TX3 Nano Products Sold in Canada

This product meets the applicable Innovation, Science and Economic Development Canada technical specifications.

The Ringer Equivalence Number is an indication of the maximum number of devices allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices does not exceed five.

CAN ICES-3 (B)/NBM-3(B)

Le présent produit est conforme aux spécifications techniques applicables d'Innovation, Sciences et Développement économique Canada.

L'indice d'équivalence de la sonnerie (IES) sert à indiquer le nombre maximal de terminaux qui peuvent être raccordés à une interface téléphonique. La terminaison d'une interface peut consister en une combinaison quelconque de dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5.

FCC Notice for all TX3 Nano Products Sold in the U.S.A.

Note

This equipment has been tested and found to comply with the limits for a Class B digital devices, 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 instruction manual, 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 of 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.

Warning

Changes or modifications not expressly approved by Mircom could void the user's authority to operate the equipment.

Type of Service

The TX3 is designed to be used on standard device telephone lines. It connects to the telephone line by means of a standard jack called the USOC RJ-11C (or USOC RJ45S). Connection to telephone company-provided coin service (central office implemented systems) is prohibited. Connection to party lines service is subject to state tariffs.

Telephone Company Procedures

The goal of the telephone company is to provide you with the best service it can. In order to do this, it may occasionally be necessary for them to make changes in their equipment, operations or procedures. If these changes might affect your service or the operation of your equipment, the telephone company will give you notice, in writing, to allow you to make any changes necessary to maintain uninterrupted service.

In certain circumstances, it may be necessary for the telephone company to request information from you concerning the equipment which you have connected to your telephone line. Upon request of the telephone company, provide the FCC registration number and the ringer equivalence number (REN); both of these items are listed on the equipment label. The sum of all of the RENs on your telephone lines should be less than five in order to assure proper service from the telephone company. In some cases, a sum of five may not be useable on a given line.

Changes to Telephone Service

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

Ringer Equivalence Number

The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. For products approved after July 23, 2001, the REN for this product is Customer Information 3 July 2003 part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (e.g., 03 is a REN of 0.3). For earlier products, the REN is separately shown on the label.

If Problems Arise

If any of your telephone equipment is not operating properly, you should immediately remove it from your telephone line, as it may cause harm to the telephone network. If the telephone company notes a problem, they may temporarily discontinue service. When practical, they will notify you in advance of this disconnection. If advance notice is not feasible, you will be notified as soon as possible. When you are notified, you will be given the opportunity to correct the problem and informed of your right to file a complaint with the FCC. Contact your telephone company if you have any questions about your telephone line. In the event repairs are ever needed on the Communicator, they should be performed by Mircom or an authorized representative of Mircom. For information contact Mircom at the address and telephone numbers on page 2.

If this equipment, TX3 Nano, causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

Product Identifier

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the back of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

Telephone Connection

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. You are responsible for installing a compliant telephone cord and modular plug into this product as described in this manual. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.

Equipment Failure

If trouble is experienced with the TX3 Nano, for repair or warranty information, please contact Mircom using the numbers on page 2. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

Use With Alarm Auto Dialers

If your institution has specially wired alarm equipment connected to the telephone line, ensure the installation of the TX3 Nano does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.