

Detection System Model 3900 Series

Owner's Manual



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3M™ Detection System Model 3900 Series Owner's Manual. 78-8129-3199-2, Rev. A.

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Safety Information



Read, understand, and follow all safety information contained in these instructions prior to using your 3M™ Detection System Model 3900 Series. Retain these instructions for future reference.

Intended use


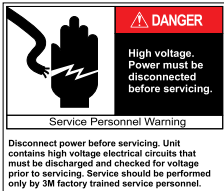

The system is intended for use in detecting books and other media items that have not been checked out by library patrons. The system is typically placed at the exit point of a library such that patrons must walk through it when exiting the building or facility and provides an audio and visual alarm if unchecked materials are detected.

The system must be installed as specified in the Architect's/Contractor's Information Package 3M Detection System Model 3900 Series (document number 78-8129-3084-6) and is intended for use in an indoor library environment. It has not been evaluated for other uses or locations.

Explanation of signal word consequences

 WARNING	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury and/or property damage.
 CAUTION	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury and/or property damage.

Explanation of product safety label symbols

	Attention: Read accompanying documentation
 	Risk of electric shock

Safety messages

 **WARNING**

To reduce the risks associated with hazardous voltage:

- Do not use the product if the case, covers, or power cord are damaged.
- Do not attempt to modify, service, or repair—no user serviceable parts inside—contact 3M Service for repair.

 **CAUTION**

To reduce the risks associated with environmental contamination from circuit boards containing lead-bearing solder:

- At the end of service life, dispose of the product in accordance with federal, state, and local requirements.

Safety labels

Several safety labels are attached to the 3M Detection System. As shown in the following figure, these labels provide warnings and cautions alerting technicians to potential electrical and physical hazards.

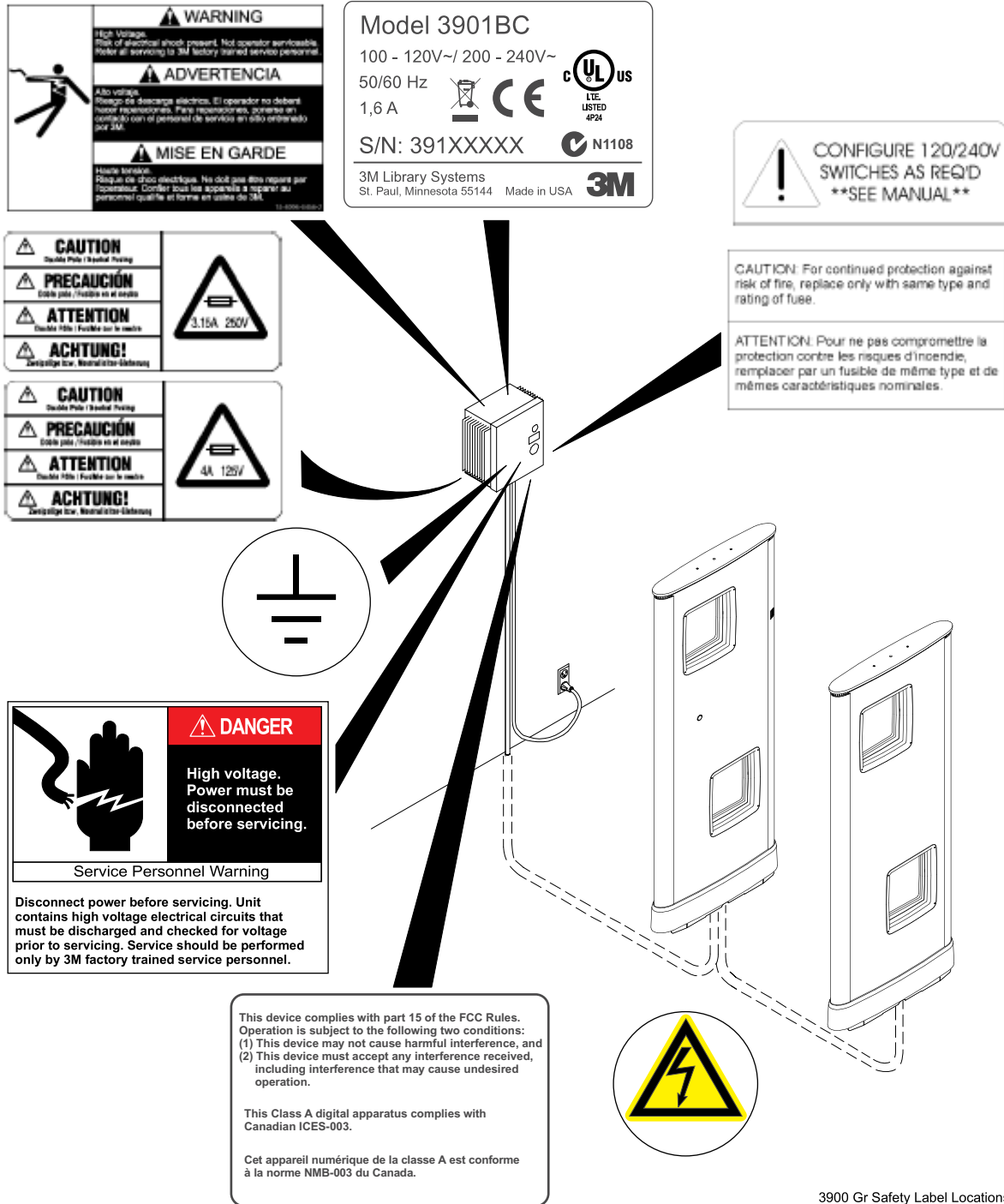


Figure 1 Safety label locations

FCC/Industry Canada/European/Australia EMC compliance

FCC radio frequency rules and regulations

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 emit radiated 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.

Industry Canada radio frequency rules and regulations

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Australia

This unit complies with the EMC requirements for Australia.



Agency approvals

- UL and ULC listed
- CE and CB certification

Introduction

The global leader in library systems products

3M pioneered the concept of electronic protection of library materials more than 39 years ago. We are still leading the way. Today, thousands of libraries around the world use 3M detection systems to protect their valuable collections, and more libraries trust 3M than all other library detection systems combined.

What this means to you

From the best-trained field service organization to our technical service group and customer support staff, we are committed to providing you with the support you require to help ensure your satisfaction.

The system has been designed to detect the unauthorized removal of materials concealed within book bags, briefcases, or under clothing. While a 100% electronic net does not exist, the system provides effective protection and significant reduction in the loss of library materials.

With a little attention and care, your system should provide you with many years of service and help to protect your library against thousands of dollars in losses. Call our toll-free 800 number any time of the day or night for service, to order supplies, or to leave messages for your sales representative at 1-800-328-0067.

Training your staff

A key element of any media loss prevention effort is a successful staff training program. Your system will be much more effective with the active cooperation and participation of your entire library staff. We recommend that you periodically conduct formal training sessions, including the following elements to ensure its success:

- Reviewing the owner's manual
- Practice tagging materials with 3M™ Tattle-Tape™ Security Strips.
- Reviewing your library's security policies
- Reviewing how to respond when the alarm sounds
- Using the system alarm log
- Addressing patron concerns

Owner's manual

This manual contains the information necessary to operate your 3M Detection System, as well as supplemental information on handling alarms, ordering supplies, and training your staff. It also contains important information about security strips and circulation accessories.

Library personnel should be familiar with the manual and where to locate it so they can refer to it when necessary.

Hands-on practice

After reviewing this manual, your staff will benefit from actual hands-on experience with the detection system products they are expected to use. We suggest you start by demonstrating the proper techniques for each stripping procedure. You may wish to conduct the actual practice as follows:

1. Make sure that all the other 3M Library Systems products are installed and functional.
2. Let each staff member practice installing Tattle-Tape security strips and markers on library items.
3. Let each staff member practice sensitizing and desensitizing materials.

Review of your library's security policies

Before practicing how to respond to alarms, staff should be familiar with the library's security policies as they relate to theft of materials. To help staff stay informed of security measures, your policy should be in writing and kept with your training kit along with any other procedures you follow.

It is particularly important for staff members to know what procedures the library follows when theft is suspected or when it is necessary to contact a local law enforcement agency.

A critical phase of staff training concerns the proper steps to take when the security system alarm sounds. The value of tact and courtesy when handling this delicate situation cannot be overemphasized. Your staff members should receive as much preparation as possible to make them feel comfortable. With the proper training, your staff will be more likely to effectively deal with patrons who activate the alarm.

What to do when the alarm sounds

The following steps are suggested procedures only. We recommend that all staff develop a complete understanding of the library's policies and follow them as directed. The response should be consistent for all patrons caught in an alarm. It is also important that staff become familiar with state and local laws governing patrons' rights and responsibilities.

3M offers these guidelines:

Responding to alarms is a sensitive situation but can be handled confidently and effectively as long as your library has established procedures and your staff members are fully trained in following them.

First, don't panic. Remain calm and courteous. You can't be positive that the person who triggered the alarm is stealing. Never accuse anyone of theft by word, by facial expression, or by tone of voice. The alarm may have been triggered accidentally, so always respond in a positive, non-threatening manner.

Alarm Scenario 1

The library staff does not desensitize a tagged item when checking out the patron's materials, or the patron accidentally removes marked materials from the library.

After asking the patron to return to the counter, a typical response might be, "Excuse me, did I forget to check out one of your items?" or "Did you perhaps pick up one of the library's books with your own things?" These are courteous questions, and they don't accuse the patron of theft. Be sure to smile and ask the questions in a friendly, non-threatening manner.

Process and desensitize all items again. If you discover an item that hasn't been properly checked out, never accuse the patron of stealing. Simply act as if the error was an oversight—it more than likely was. If the patron causes the alarm to sound again, follow the policy that your library has established for possible theft of materials.

Alarm Scenario 2

A patron denies having any library materials or runs out of the library after sounding the alarm.

Follow your library's policy for theft.

Unwanted alarms

Your detection system is virtually free of false alarms. Occasionally your system may alarm and your staff may find that the patron does not have unauthorized library materials. Unwanted alarms may be caused by active strips on items carried into the library such as books from another library.

Unwanted alarms are generally infrequent and will vary depending on the patrons and the proximity of your library to facilities that are releasing items containing security strips. Because it is not possible to distinguish between unwanted alarms and alarms with potential item loss, all responses to alarms must be consistent and follow your management policies. If patrons see no response to alarms, the system becomes less effective. When you decide that a security strip on an item from outside your library caused an alarm, follow these steps:

1. Explain the problem to the patron.
2. Verify that all of the patron's library materials are properly checked out.
3. Allow the patron to exit the library.

Many patrons will learn from the experience and will not carry items that may cause alarms into the library.

Alarm log

The alarm log is used to keep a record of details involving alarms that occur. See [Detection system alarm log on page 21](#). For each alarm, record the information on the log. Keeping this log up-to-date provides a key tool for monitoring system activity. An up-to-date alarm log provides useful information for library management and your 3M service representative.

How the system works

Your 3M detection system consists of several components, which include Tattle-Tape security strips, circulation accessories, and the detection system.

The key to the effectiveness of your system is protecting your materials with Tattle-Tape security strips. Only when materials are protected can your detection system detect someone trying to leave your library without properly checking out items.

The primary zone of detection between two lattices extends from 6 in. [15 cm] above the surface of the floor to 72 inches [1,82 m] above the floor. The electronic coverage in this area is not 100% and it will vary with the options you have and the type of 3M security strips/markers you use. However, the rate of detection from 6 in. [15 cm] above the surface of the floor to 72 inches [1,82 m] above the floor is effective to deter the loss of protected materials.

Checking out materials is accomplished using desensitizers to “turn off” the strips while resensitizers are used to “turn on” the strips when materials are returned to the library. This allows for full circulation of all library materials.

The 3M detection systems are designed to detect sensitized 3M Tattle-Tape security strips and then sound an alarm, thus preventing unauthorized removal of library materials.

It is this simple:

- Mark the materials.
- Circulate the materials using desensitizers and resensitizers.
- Listen for the detection system alarm to sound when unauthorized removal of materials occurs. It is also important to watch for suspicious actions such as holding materials above the head or moving items around the lattices when passing through the detection system.

3M offers several models of detection systems to meet your library’s needs. See the next section for details on the models you may have.

How the system works

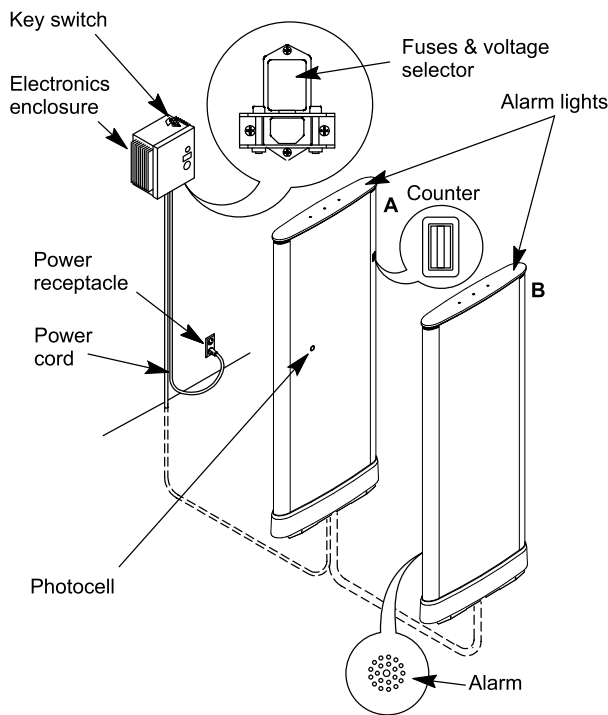
System configurations

The 3M Detection System Model 3900 series consists of four models: 3901, 3902, 3911, and 3912. The following illustrations show the buried cable mounting option. Other mounting options include direct mounting with the connecting cables routed under either a narrow threshold or a wide baseplate. All models function identically; the only difference between Models 3901 and 3902 and Models 3911 and 3912 is cosmetic.

Models 3901 and 3902

Models 3901 and 3902 have solid panels on the lattices. Model 3901 has a single corridor, whereas Model 3902 has two corridors.

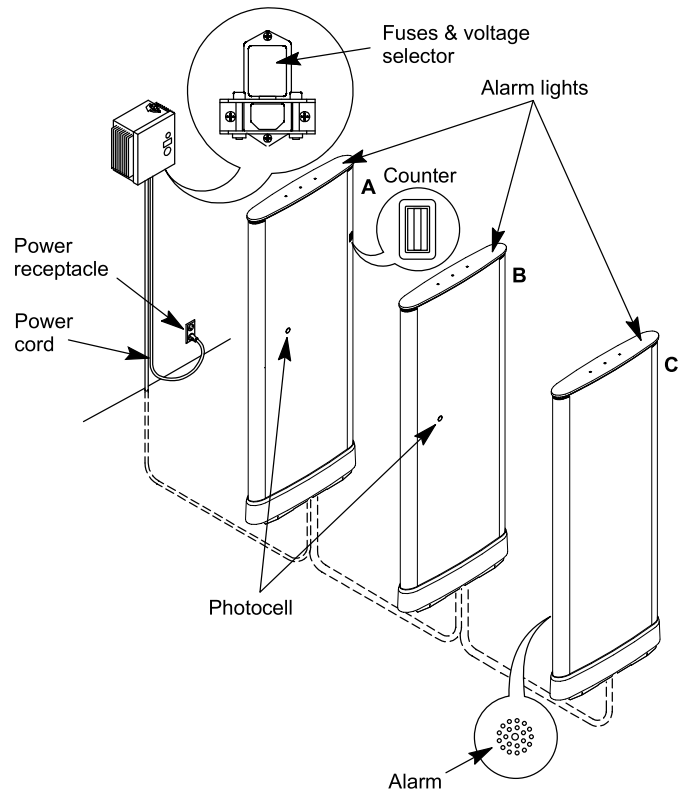
Model 3901 single-corridor system



3900 Gr Corridor Overview with Solid Panels

Single-corridor system

Model 3902 dual-corridor system

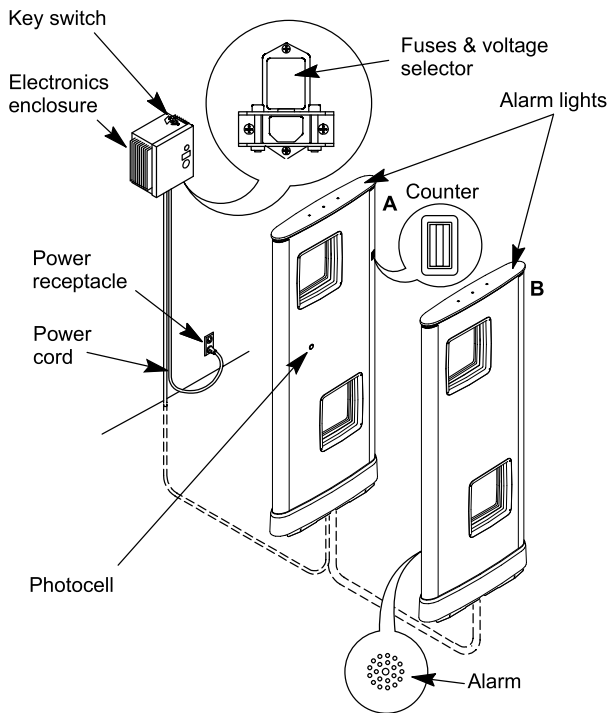


Dual-corridor system

Models 3911 and 3912

Models 3911 and 3912 have windowed panels on the lattices. Model 3911 has a single corridor, whereas Model 3912 has two corridors.

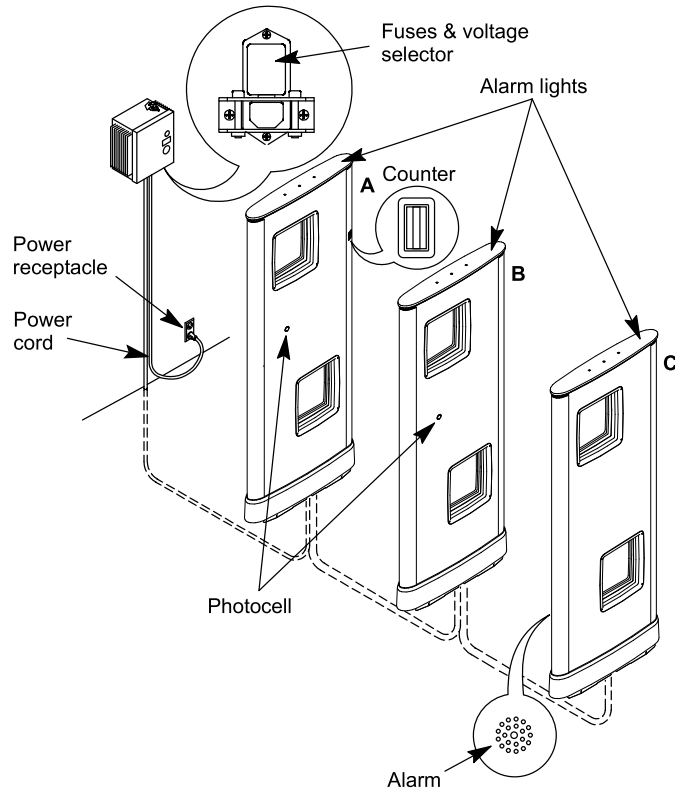
Model 3911 single-corridor system



3900 Gr Corridor Overview with Panels

Single-corridor system

Model 3912 dual-corridor system



Dual-corridor system

Machine characteristics

Physical specifications

Single-corridor system (2 lattices)

Shipping size (including pallet)		Machine size	
Height:	29 inches [737 mm]	Height:	71.7 inches [1820 mm]
Width:	33 inches [838 mm]	Width:	47.1 inches [1197 mm]
Depth:	75 inches [1905 mm]	Depth:	28.9 inches [733 mm]
Weight:	270 lbs. [122 kg]	Weight:	230 lbs. [104 kg]

Corridor width: 36 inches [914 mm] for new installation or 34 inches [864 mm] for upgrade from Model 3500

Dual-corridor system (3 lattices)

Shipping size (including pallet)		Machine size	
Height:	36 inches [914 mm]	Height:	71.7 inches [1820 mm]
Width:	33 inches [838 mm]	Width:	88.8 inches [2256 mm]
Depth:	75 inches [1905mm]	Depth:	28.9 inches [733 mm]
Weight:	367 lbs. [166 kg]	Weight:	330 lbs. [150 kg]

Corridor width: 36 inches [914 mm] for new installation or 34 inches [864 mm] for upgrade from Model 3500

Construction

The detection system is anchored to the floor and has the durability to withstand typical library or bookstore traffic. Both single- and dual-corridor systems can be installed on mounting feet (threshold or buried cable) or on a baseplate.

Power requirements

A dedicated power line is recommended but not required.

Voltage	100/120/220/240 VAC 50 or 60 Hz
Amperes	2.0 A @ 100/120 VAC or 1.0 A @ 220/240 VAC
Maximum current draw for all systems	<ul style="list-style-type: none">• 110/120 VAC: 500 mA• 200/240 VAC: 250 mA



To reduce the risks associated with hazardous voltage:

- Do not use the product if the case, covers, or power cord are damaged.
- Do not attempt to modify, service, or repair—no user serviceable parts inside—contact 3M Service for repair.

Environmental requirements (operation)

Typical ambient temperature range: 32° F – 122° F [0° C – 50° C]

Humidity: 0% to 85% relative humidity, non-condensing

Environmental requirements (storage)

Typical ambient temperature range: –40° F – 131° F [–40° C – 55° C]

Humidity: 0% to 85% relative humidity, non-condensing

Detection zone

The primary zone of detection between two lattices extends 6 in. [15 cm] above the surface of the floor to 72 in. [1,82 m] above the floor. The electronic coverage in this zone is not 100%, but the rate of detection is effective to deter the loss of protected materials. It is important to watch for suspicious actions such as holding materials above or outside the lattices when passing through the system.

Indicators

Type	Description
Patron counter	Indicates the number of patrons passing through the system.
Power indicator	Red LED indicates power on.
Alarm/Inhibit	LED is normally green. Constant yellow indicates Inhibit, flashing yellow indicates an Alarm.
Lattice alarm lights	Indicates an Alarm.
Audible alarm	

Alarm outputs

Visual	Visual alarm indicator lights are located on top of each lattice. If the lights are on, an alarm condition has occurred.
Audio	An audible alarm speaker is mounted on lattice B or C. Alarm volume is adjustable.

Cleaning Instructions

Lattice and base

Turn off the detection system prior to using liquid cleaners. Remove dirt and greasy buildup using towels or soft cloths that have been dampened with a common household grease-cutting liquid cleaner. 3M suggests a monthly cleaning to retain the best equipment appearance.

Photocell lens and reflector

At least once a month, wipe the photocell lens and reflector with a soft cloth dampened with water.

Cleaning Instructions

System Operation

Turning your system on and off

Power is applied and removed with a key switch located on the electronics enclosure. Two keys are supplied with the system. Remove the key while the system is operating to prevent patrons from turning off the system. If the key is not available and power must be removed, unplug the power cord or turn off the circuit breaker in the power distribution panel that supplies power to the system. Your detection system has been designed to be left on continuously.

Turning the system on

1. Ensure that the power cord is connected to a power outlet or other source of power.
2. Turn the key switch to the **On** position.
3. Allow 15 seconds for the system to warm up.

Turning the system off

Remove power from the system by one of the following methods:

- Turn the key switch to the **Off** position.
- Disconnect the AC power cord from the power outlet.
- Set the facility circuit breaker for the system to the **Off** position.

Verifying system operation

Your system should be inspected daily for proper operation. To verify system operation, walk through the system corridor with a secured library item. This should result in an audible alarm and a flashing alarm light at the top of the lattices. Also, the green alarm/inhibit light on the electronics enclosure should be flashing yellow at the time of alarm. There is no need for repetitive walk-through testing. During normal operation, the current patron count is displayed. Each pass through the system should increment the patron counter by one.

Fuse replacement

The fuses are located on the bottom of the electronics enclosure in the power entry connector.

1. Turn the key switch to **Off** and disconnect the power cord from the power source.
2. Using a small flat-blade screwdriver, remove the fuse block from the power entry connector.
3. Do not remove the voltage selection block as this has been set at the correct voltage by the installer.
4. Replace the failed fuses with the correct fuse for your operating voltage:
 - Up to 100 to 120 VAC, use a 4A fuse.
 - Voltages over 220 to 240 VAC, use a 3.15A fuse.
5. Reinstall the fuse block, connect the power cord to the power source, and turn the key switch to **On**.

Solving problems

Problem	Cause	Action
No alarm, no mechanical counter, no red power indicator on the electronics enclosure.	No power at receptacle.	Reset facility circuit breaker.
	Power cord disconnected at receptacle.	Plug power cord into receptacle.
	System fuse open.	Replace fuse in power entry connector. See fuse replacement procedure.
	Power turned off at electronics enclosure.	Turn key switch to On .
	System failure.	Place a service call.
No alarm, no mechanical counter, power indicator on.	Processor requires reset.	Turn the key switch off, wait 5 seconds, then turn the switch on.
	System failure.	Place a service call.
No alarm, patron counter works.	Strips in book desensitized or missing.	Resensitize books, or install a Tattle-Tape security strip in the book.
	Metal objects too close to lattice.	Move all metal to minimum distance of 18 inches from the lattices.
	System failure.	Place a service call.
Unwanted alarms.	Protected material from another library or a retail store.	Identify material that caused the alarm.
	Failure to desensitize strips properly.	Check desensitizing process and training.
	Miscellaneous metallic objects.	Infrequent unwanted alarms are possible from some metal objects .
	System failure.	Place a service call.
Reduced coverage, no alarm, patron counter works.	Metal objects too close to lattice.	Move all metal to minimum distance of 18 inches from the lattices.
	Electrical interference.	Remove possible sources of electrical interference such as computers, copiers, TVs, electronic devices, or energy management systems.
	Incomplete walk-through test.	Test the system by walking completely through the corridor.
	Books not properly resensitized.	Resensitize book, check sensitizing method and staff training.
	System failure.	Place a service call.
Alarm indicator illuminated or intermittent with no traffic in corridor.	Metal objects too close to a lattice.	Move all metal objects to a minimum of 3 feet from the lattice.
	Marked book or strips too close to lattice.	Move the marked books to a minimum of 3 feet from the lattice.
	Electrical interference.	Eliminate source of interference.
	System failure.	Place a service call.

Warranty

Effective 12-12-05

One Year Library Systems Product Performance Guarantee: Subject to the Limitation of Liability below, 3M guarantees your satisfaction with the performance of any 3M Library System Product for 12 months from the date of installation provided that a) you are the original purchaser; b) you have executed a one (1) year 3M Service Agreement for maintenance of the Library System product; and c) the product has not been subjected to abuse, misuse, accident or neglect. Performance means the product meets 3M published product specifications. If you are not completely satisfied with the performance of your Library System Product, you may return the Library System product for a prompt refund. 3M will pay all reasonable de-installation and shipping charges to return the product to 3M. Note that all claims under this guarantee must be submitted to 3M within 12 months from the date of installation of the 3M Library Systems Product. Failure to submit a claim within this time frame will invalidate this guarantee. IMPORTANT: Consumables and non-3M branded products are excluded from this Guarantee.

Warranty and Limited Remedy for Non-Software Library Systems Products Not Covered by Performance Guarantee: Unless stated otherwise in 3M product literature or packaging, 3M warrants that each 3M Library Systems Product meets the applicable specifications for a period of ninety (90) days from the date of shipment (or, in the case of hardware installed by 3M, from the date of installation). Any warranties related to 3M software are contained in separate 3M software licenses. Consumables and non-3M branded products are excluded from this Warranty and Limited Remedy.

3M MAKES NO OTHER GUARANTEES, WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY OR CONDITION ARISING OUT OF A COURSE OF DEALING, CUSTOM OR USAGE OF TRADE. You are responsible for determining whether the 3M product is fit for a particular purpose and suitable for your application. If the 3M product is defective within the warranty period and provided that a) the product has not been subjected to abuse, misuse, accident or neglect and b) you have notified 3M within thirty (30) days after the defect was discovered, your exclusive remedy and 3M's and seller's sole obligation will be, at 3M's option, to replace or repair the defective 3M product.

Limitation of Liability: EXCEPT WHERE PROHIBITED BY LAW, 3M AND SELLER WILL NOT BE LIABLE FOR ANY LOSS OR DAMAGE ARISING FROM 3M LIBRARY SYSTEMS, WHETHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL, REGARDLESS OF THE LEGAL THEORY ASSERTED, INCLUDING WARRANTY, CONTRACT, NEGLIGENCE OR STRICT LIABILITY.

Guarantee and Warranty Claims: For guarantee and warranty claims, and for service, contact our service representatives at 1-800-328-0067

**3M Library Systems
3M Center Building 225-4N-14
St. Paul, MN 55144-1000**

Ver 061308

Warranty

Detection system alarm log

3M Service

Before you call for service, please have the following information available:

- The name, address, and phone number of your facility.
- Model number and serial number of the equipment (located on serial label)
- Description of the problem.

System information

Model Number: _____

Serial Number: _____

3M Service phone numbers

For questions regarding your system, call one of the following numbers.

In the United States

1-800-328-0067

In Canada

English 1-800-268-6235
Français 1-800-567-3193

In other countries

Call your local 3M office.

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