3M™ Detection System Model 9100

Owner's Manual

Built to Exceed Expectations

3M

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Safety information

Intended use

The 3M™ Detection System Model 9100 Series is intended for use in detecting books and other media items marked using RFID tags 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 *3M™ Detection System Model 9100 Series Architect's/Contractor's Information Package* 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
	Do not throw away in normal trash

Safety messages contained in this manual

⚠ 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 at the end of service life of the product:
• At the end of service life, dispose of or recycle the product in accordance with applicable federal, state, and local requirements.

Label locations

The following illustration shows where labels are located on the detection system lattice.

CAUTION:

For continued protection against risk of fire, replace only with same type and rating of fuse.

4A 250V
TIME-LAG

3M™ Detection System

Model 9100DV

S/N: 911XXXXX
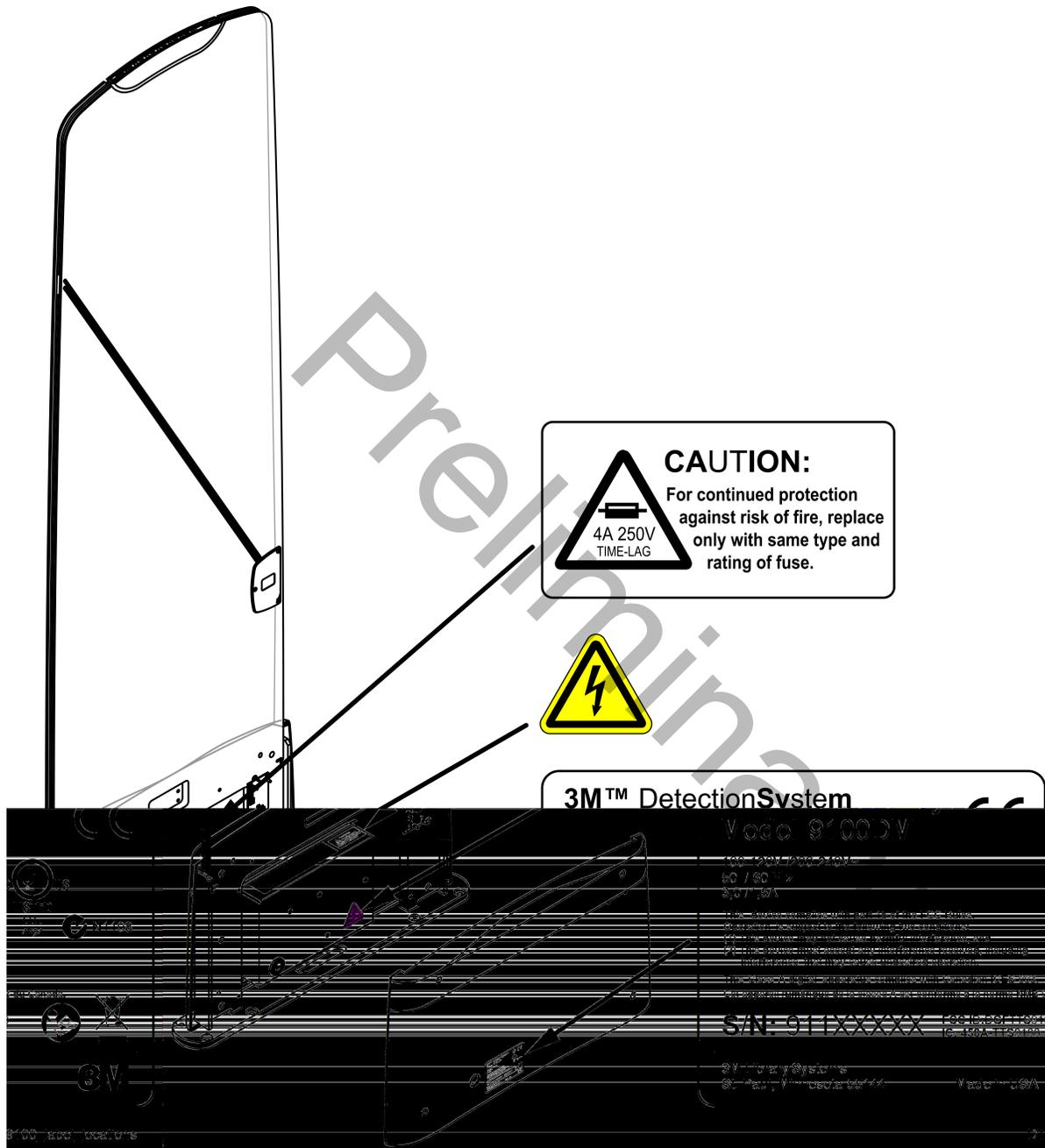
Regulatory compliance

EMC compliance USA and Canada

FCC Radio Frequency Rules and Regulations

This equipment has been tested and found to comply with the limits for a Class A 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.

NO MODIFICATIONS. Modifications to this device shall not be made without the written consent of 3M Company. Unauthorized modifications may void the authority granted under Federal Communications Commission Rules permitting the operation of this device.

FCC intentional radiator certification

FCC ID: DGFTTS9100

This equipment contains an intentional radiator approved by the FCC under the FCC ID number shown above. 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 interference that may cause undesired operation.

Industry Canada radio frequency rules and regulations

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe A respecte toutes les exigences do Reglement sur le materiel brouilleur du Canada.

CANADA: 458A-TTS9100

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference received, including interference that may cause undesired operation of the device.

EMC compliance Europe

This equipment meets the requirements of the RTTE and EMC directives.

Introducing the detection system

The 3M™ Detection System Model 9100 Series assists in preventing unauthorized removal of a library's materials when they are marked with 3M™ RFID tags. The system offers the following features:

- Integrated audio and visual alarms to alert staff when an item containing a secured tag is detected

- Integrated, directional patron counter

- Corridor width of 36 in. [91,4 cm] to comply with ADA guidelines

- Direct mount, baseplate or buried cable mounting options

- Support for configurations up to seven corridors

- Support for integration with the optional 3M™ Command Center
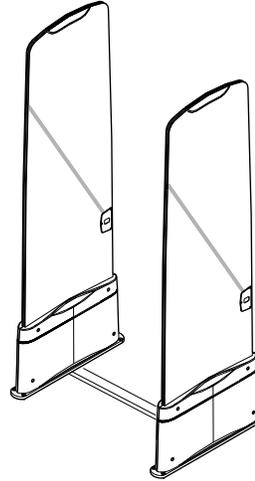
DT_9100 Direct Mount Example

Operating the detection system

⚠ **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 at the end of service life of the product: At the end of service life, dispose of or recycle the product in accordance with applicable federal, state, and local requirements.

Turn the system on and off

Use the information in this section to turn the detection system on and off.

1. Locate the key switch—which controls power to the system—on an end lattice.

2. Use the key to power the system on and off. Turn the key to the:

   • 0 position to turn the system off

   • 1 position to turn the system on
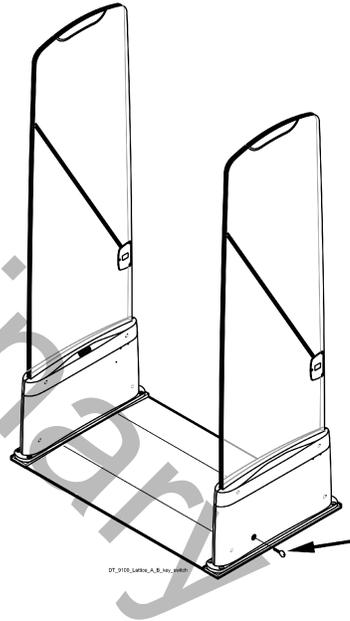
Verify system operation

Use the information in this section to verify system operation, which should be done each day.

• Walk through each corridor with a library item with security set on its RFID tag. Each walkthrough should produce an alarm.

Check the patron count

Use the information in this section to check the patron counter, which keeps track of how many patrons have entered and how many patron have exited through all corridors of the detection system. It also keeps a total count.

• Check patron count information on the patron counter display located on one of the lattices.

– In and out arrows indicate direction, that is whether the count is for patrons entering or patrons exiting the library.

– An equal sign indicates the patron count total.

Note: Optional Command Center software also keeps and reports the patron count.

Patron counter

DT_9100_patron_count_display
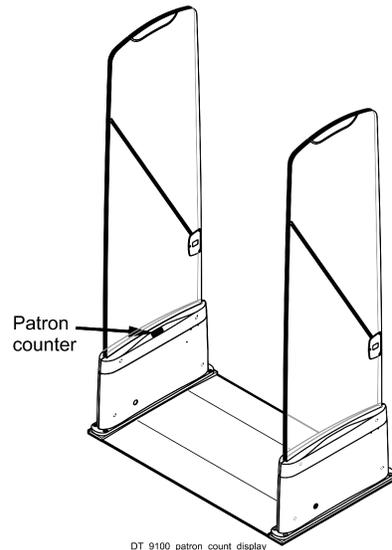
Reset patron counter

Use the information in this section to reset the patron counter.

Note: Sites with the optional Command Center software can reset the patron counter from the software also.

Note: To keep track of the total patron count, record the count before resetting the counter.

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1. Locate the patron counter access hole, which is located beneath the patron count display.

2. Press the patron count reset button by inserting the pointed end of a bent paper clip into the access hole.

   You will know the reset operation was successful when the count is zeroed out in the patron count display.

Paper clip in access hole

Patron counter

DT_9100_Lattice_A_B_patron_reset
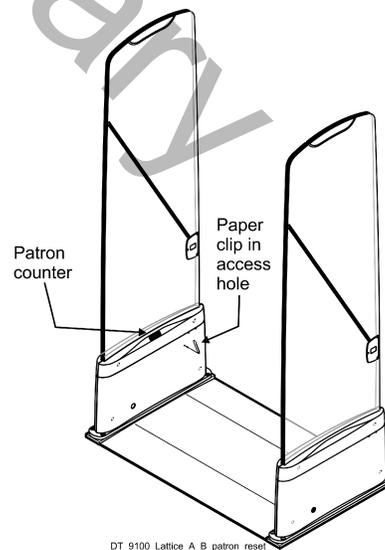
Adjust alarm volume

Use the information in this section to adjust the alarm volume.

1. Locate the alarm adjustment mechanism, which is near the alarm speaker and on the same lattice as the patron counter.

2. Adjust alarm volume by doing the following:

    a. Have someone stand in a detection system corridor with a secure RFID tag so that the alarm sounds continually.

    b. Insert a paper clip or small screw driver through the alarm adjustment opening and move the adjustment mechanism back and forth until you find the right volume.

Paper clip

DT_9100_Lattice_A_B_volume_adjust
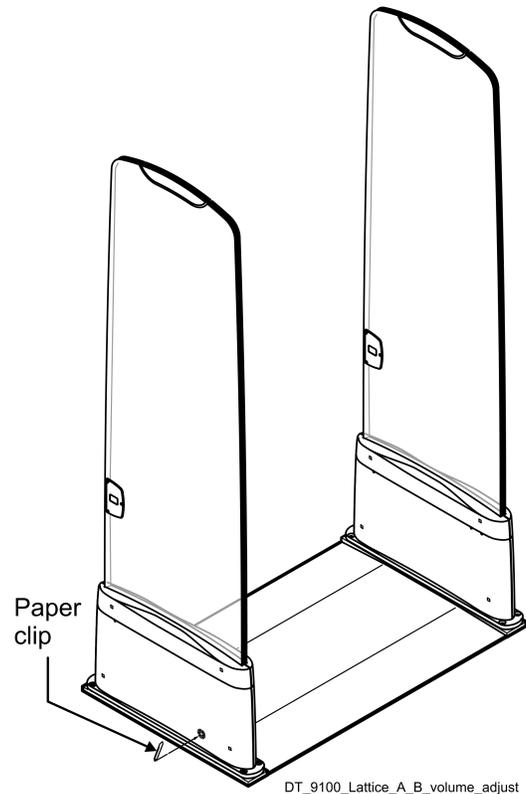
Clean lattices

Use the information in this section to clean lattices, which can be scratched by dirt.

⚠ CAUTION

- Turn off the detection system before cleaning.

- Do not allow liquid into the lattice base because this can damage electronics.

- Do not use harsh chemicals, cleaning solvents, window cleaning sprays, kitchen scouring compounds, or strong detergents, which can damage lattices.

Cleaning instructions

- Use a soft, clean, damp cloth or chamois to gently clean lattices. If required, clean an area with a cloth moistened with a solution of mild soap or detergent and lukewarm water. Rinse with clean water and dry residual moisture with a clean, soft cloth or towel.

- Use an antistatic cleaner for acrylic to reduce static electricity and dust attraction.

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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 help ensure its success.

• Reviewing the owner's manual

• Practice tagging materials with 3M™ RFID Tags

• Reviewing your library's security policies

• Reviewing how to respond when the alarm sounds

• Using the system alarm log

• Addressing patron concerns

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 tagging 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 the tags on library items.

3. Let each staff member practice securing and unsecuring 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. It is important that staff become familiar with state and local laws governing patron's rights and responsibilities, and the response should be consistent for all patrons caught in an alarm.

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.

Note: 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.

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

What to do when the alarm sounds

Generally, remain calm and courteous. Don't panic and don't rush to assumptions about the person who triggered the alarm. It's not possible to be immediately certain of the thoughts or motives of the person. Never accuse anyone of theft by word, by facial expression, or by tone of voice. In rare occasions, the alarm may have triggered falsely. In other cases, an item may not have been

unsecured properly, or the person holding the item that caused the alarm may not even be aware it is in their possession. Always respond in a positive, nonthreatening manner.

Possible alarm scenarios

In simple terms, a patron might respond to a triggered alarm in either of three ways:

1. The patron might stop in the corridor.

2. The patron might be unaware they have caused the alarm, disregard it, and casually continue to exit.

3. The patron might run for the exit.

In the third scenario, the answer is obvious: follow your library's policy for theft.

The solution for the first and second scenarios may not be so clear-cut and you will want to exercise courtesy and tact because you will want the patron's cooperation and in most cases the patron will want to cooperate.

After asking the patron to return to the counter, you might typically ask "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, nonthreatening manner.

Process and unsecure 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—and you can resolve the situation easily in this manner.

If the patron is uncooperative or causes the alarm to sound again, follow the policy that your library has established for possible theft of materials.

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 tags 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 tags. 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 tag 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.

Specifications

Environmental requirements

Operating temperature range	32° to 104° F [0° to 50° C]
Storage temperature range	–4° to 140° F [–20° to 60° C]
Humidity	0% to 85% relative humidity, non-condensing

Electrical requirements

• System power input for all systems (RMS) is: 100-240 VAC 50/60 Hz..

• Maximum power requirements for each system is 60W.

• Power cord is 18 gauge, 3-wire, S-rating, 9.74 feet [3,0 m] long, NEMA 5-15P plug, with an IEC 320 connector.

• Electrical outlet

 – A dedicated circuit is not required but is recommended to prevent overloading and loss of security.

 – Circuit loading must not exceed 50% of the rated circuit current to help ensure voltage stability.

Troubleshooting

Reporting error codes

When certain error conditions occur, the system presents error codes on the patron counter display. These codes can help 3M support staff diagnose problems, so you may be asked to record and report them when you report a problem.

Symptoms and resolution

Problem	Possible Cause	Action
No alarm or patron count	Unit not plugged into power.	Plug the unit in and wait 10 seconds for full operation.
	Circuit breaker off.	Reset circuit breaker and wait 10 seconds for full operation.
No alarm	Unsecured tag	Test the system with another library item that you know has a secured tag.
Unwanted alarms (infrequent)	Materials from another library	Identify material that caused the alarm.
	Failure to unsecure tags properly	Follow correct checkout procedures outlined in 3M literature. Check operator training procedures.
Unwanted alarms (frequent)	Failure to unsecure tags properly	Follow correct checkout procedures outlined in 3M literature. Check operator training procedures.
	System failure	Place service call to 3M.
Reduced coverage	Metallic objects too close to the system	Remove nearby metal.
	Books not properly secured	Retest with a properly secured book.
	System failure	Place a service call to 3M.
Patron counter did not increment	Incomplete walk through test	Retest by walking through the corridor. The light beam between the photocell and the reflector must be interrupted to increment the patron counter.
	System failure	Place a service call to 3M.

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.

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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

Track and Trace Solutions   **Ver121205**
3M Center Building 225-4N-14
St. Paul, MN 55144-1000

Detection system alarm log

Alarm Date	Alarm Time	Patron count	Reported by	Alarm reason* (1–5)	$ Value of recovered materials	Description of recovered materials

*Alarm reason:

1. Test
2. Upon entering
3. Failure to un-secure
4. Undetermined
5. Real alarm

3M Service

Information to gather

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

- The name, address, and telephone number of your facility

- A description of the problem or the issue you want addressed

- The model number and serial number of the equipment (located on the serial label), if the call is in regard to a system problem

Model Number _____

Serial Number _____

3M Service phone numbers

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

In the United States	In Canada	In other countries
1-800-328-0067	English 1-800-268-6235 Français 1-800-567-3193	Call your local 3M office.

3M Library Systems Web Site

The 3M Library Systems Web site can be located at http://www.3M.com/library.

For additional information in the United States about 3M Library Systems, go to http://www.3M.com/us/library.

3M Library Systems
3M Center, Building 225-4N-14
St. Paul, MN 55144-1000
www.3M.com/library