USER GUIDE for
3M™ FULL PAGE READER,
3M™ AUTHENTICATION SYSTEM and
3M™ ePASSPORT READER

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Proprietary and Confidentiality Notice

Office Locations

Corporate Headquarters - North America and Asia Pacific

1545 Carling Avenue
Suite 700
Ottawa, Ontario
CANADA
K1Z 8P9
telephone: +1 613 722 2070
fax: +1 613 722 2063
email: 3M-AiTinfo@mmm.com
web: http://www.3m.com/security/en

Europe, Middle East and Africa

3M United Kingdom PLC
3M Centre Cain Road
Bracknell, Berkshire
UNITED KINGDOM
RG12 8HT
telephone: +44 (0) 1344 858 000
fax: +44 (0) 1344 857 865

Global Technical Services

North America

direct line: +1 613-722-3629
main number: +1 613-722-2070
fax: +1 613-722-2063
email: 3M-AiT-gcs@mmm.com

United Kingdom

direct line: +44 (0) 1344 858 371
main number: +44 (0) 1344 858 000
fax: +44 (0) 1344 858 792

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EMC, USA, and Canada compliance

FCC Radio Frequency Rules and Regulations

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 a 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.

```
FCC ID: DGFSSDPV33
```

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.
Industry Canada Radio Frequency Rules and Regulations

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 du Reglement sur le materiel brouilleur du Canada.

```
CANADA ID: PENDING
```

EMC Compliance Europe

This equipment complies with the requirements of the RTTE and EMC directives.
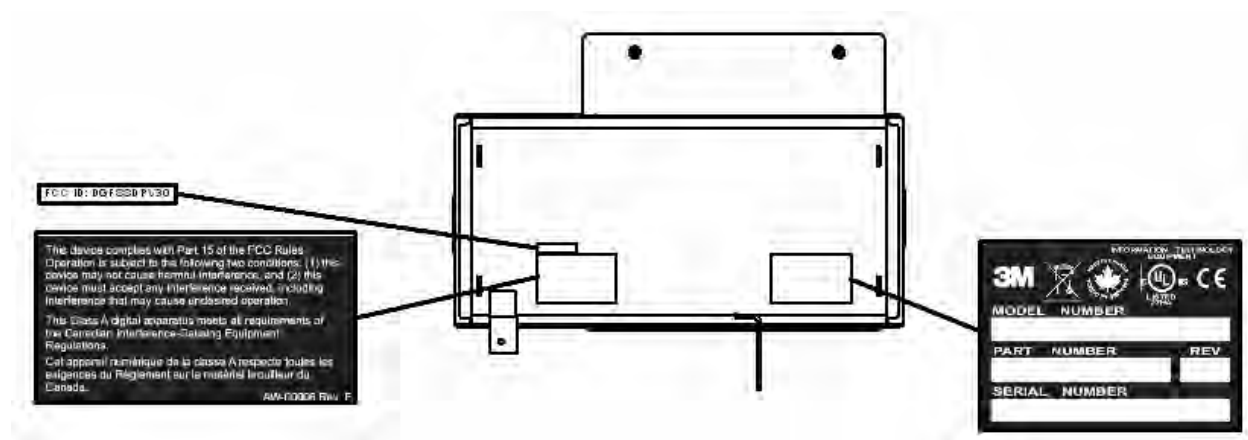
Safety Label Locations

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Introduction

This document describes the features and functions of the following three readers:

- 3M™ Full Page Reader
- 3M™ Authentication System
- 3M™ ePassport Reader

Safety Information

Read, understand, and follow all safety information contained in these instructions prior to using any reader. Retain these instructions for future reference.

The safety labels are affixed to the underside of each reader and power supply.

Explanation of Product Safety Label Symbols	
	Warning: Indoor Dry Location Use Only
	Attention: Refer to Instructions
BACKLIGHT CONTAINS MERCURY, DISPOSE ACCORDING TO LOCAL, STATE, AND FEDERAL LAWS	**Display Unit: Mercury disposal hazard**

Intended Use

These readers optically scan passports and ID cards. They also read and write to Contactless Integrated Circuit chips integrated into travel documents. They are intended to be used in a dry indoor environment only. They have not been evaluated for other uses or environmental conditions.

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.

⚠ WARNING
To reduce the risk associated with hazardous voltage which, if not avoided, could result in death or serious injury: • Do not use the reader with any AC power supply other than the provided 3M AC power supply. Do not open the reader/power supply. There are no user serviceable parts or adjustments inside. • Do not use AC power supply and/or power cord if damaged. • Product is to be serviced by 3M service personnel only. No user serviceable parts or adjustments inside. • Do not modify or attempt to modify the reader and/or AC power supply. • Use only in an indoor dry location. • Do not use the product in an outdoor and/or wet environment.

⚠ CAUTION
To reduce the risk associated with environmental contamination from UV tube disposal, which, if not avoided, may result in minor or moderate injury: • UV Tube contains Mercury, Dispose according to applicable local, state, provincial or federal laws To reduce the risk associated with environmental contamination from circuit board containing lead-bearing solder, which, if not avoided, may result in minor or moderate injury: • Dispose of the device according to applicable local, state, provincial or federal regulations.

Features Overview

The 3M™ Full-Page Document Readers are a family of intelligent optical character recognition (OCR) and full-image capture devices that provide automated data capture from a variety of personal identification documents. They convert data from documents encoded with:

• OCR text

• 1D barcodes

• customized client requirements

• contactless integrated circuit (IC) chips

Each reader provides imaging in:

• 24-bit visible colour

• infra red

• ultra violet (optional)

• 3M™ Confirm™ laminate (optional)

The document window is larger than International Civil Aviation Organization (ICAO) documents so that larger documents can be placed on the window.

The readers perform optical character recognition on documents that conform to ICAO 9303 specifications, and send data from the document to a host computer over a Universal Serial Bus (USB) connection.

The base functionality for the different readers varies:

3M™ Full Page Reader

- Optical Character Recognition (OCR)
- 1D barcode reading
- visible and infrared imaging

3M™ Authentication System

- OCR
- 1D barcode reading
- visible, infrared (IR) and ultraviolet (UV) imaging
- 3M™ Confirm™ laminate imaging, authentication and tamper detection
- enhanced document authentication

3M™ ePassport Reader

- OCR
- 1D barcode reading
- Contactless Integrated Circuit (CIC) reading and writing
- digital signature verification
- optional UV, and 3M™ Confirm™ laminate imaging, authentication and tamper detection

Each reader can help the operator detect forged or counterfeit documents. Optionally reading the UV features printed in fluorescent inks on a document provides inspectors with colour images of the UV scan.

Optional 3M™ Confirm™ laminate imaging allows the inspectors to quickly verify the authenticity of the document. It can also indicate if documents have been tampered with by revealing marks or other damage.

The following images were taken using a reader:

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Figure 1: Visible   **Figure 2: Infrared**

Figure 3: Ultra Violet   **Figure 4: 3M™ Confirm™ Laminate**

Figure 5: Damaged 3M™ Confirm™ Laminate   **Figure 6: Tampered 3M™ Confirm™ Laminate**

Related Documents

For information on advanced features, see:

3M™ Full Page Reader

- Authentication Manager Document Analysis Software Developer's Reference (DT-01718)

3M™ Authentication System

- 3M™ Reader Authentication System Software Developer's Reference (DT-01675)

- Authentication Manager Document Analysis Software Developer's Reference (DT-01718)

- 3M™ Reader Authentication Manager Central Administration Utility Manual (DT-01674)
- 3M™ Authentication Solution Document Database Layout Editor Manual (DT-01676)

3M™ ePassport Reader

- ePassport Manager Interface SDK (COM / Active X) Developer's Reference (DT-01714)
- 3M™ Reader Authentication System Software Developer's Reference (DT-01675)
- Authentication Manager Document Analysis Software Developer's Reference (DT-01718)
- 3M™ Reader Authentication Manager Central Administration Utility Manual (DT-01674)

Host PC Requirements

- Windows® 2000 SP4 or Windows® XP
- USB 2.0 high-speed capability

  Note: See Appendix C for instructions on how to check for USB2.0 compatibility.

Product Description

The reader is a small desktop device with:

- document window for placement of documents to be read
- 4 status indicator LEDs
- back panel communication and power connection ports

Figure 7: Physical Features

Top View

Back View

Document guide   Document window

Light shield

Indicator LEDs

Power switch

Security loop

USB Port

Power connector
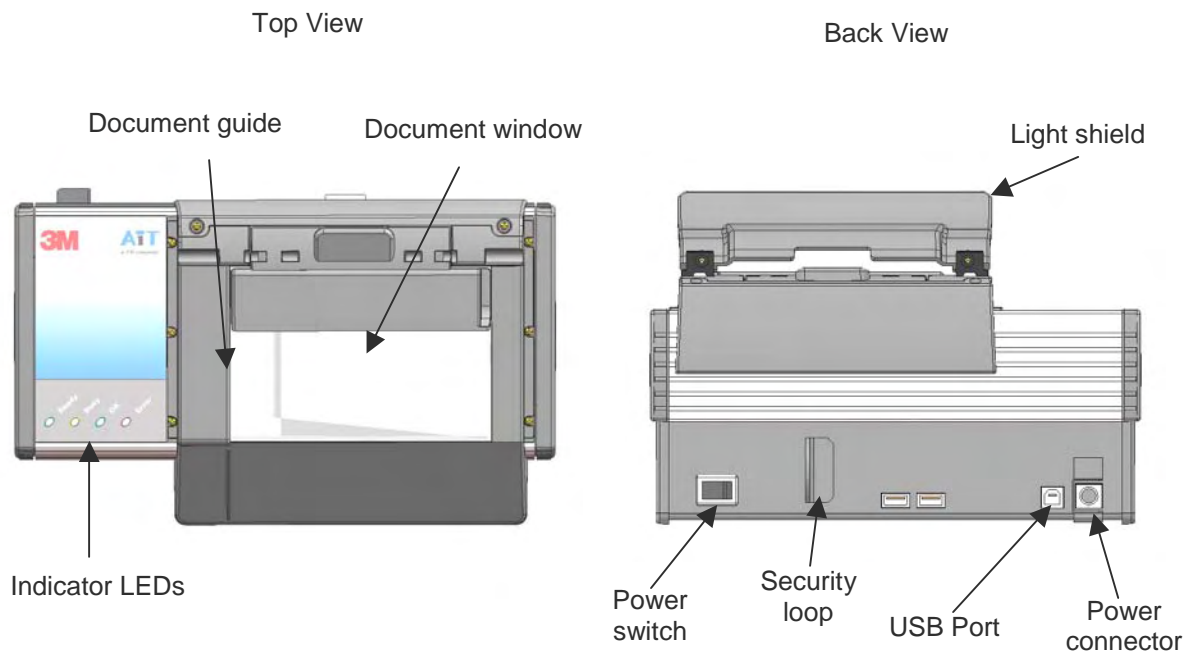
Document Window

The document window is a glass surface located on top of the reader. Place documents on the window to scan them. Keep this surface clean to ensure optimum operation of the reader.

See Cleaning on page 19 for more information.

Indicator LEDs

The LEDs indicate the reader status and the result of scanning a document.

Table 1: Indicator LED

Ready (green)	The reader is ready to scan a document (when connected to the host application).
Busy (amber)	The reader is scanning a document and processing the data.
OK (green)	A known document type was presented and processing was successful.
Error (red)	The document is of an unknown type or did not process properly.

Back Panel

The back panel features the power switch, power supply connector and USB communication ports. Data is sent to the host PC through the USB 2.0 host connector.
A built-in USB hub and two auxilliary USB 2.0 connectors allow you to connect additional USB peripherals for example, mouse/keyboard, 2-D barcode readerpowered from the reader. In addition, a security loop can be used to tether the reader to the workplace.

Figure 8: Back Panel Ports
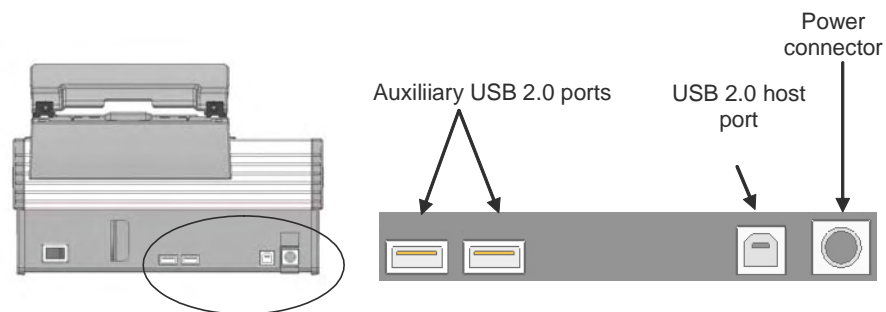
Setting up the Reader

Before beginning to read documents, you must

- verify your host PC's capabilities
- unpack the reader
- install the software
- connect the power supply

- connect the reader to the host system using the USB cable

Unpacking the Reader

Each reader package consists of:

- 1 reader
- 1 power supply converter
- 1 AC cable
- 1 test card
- 1 Documentation/Software CD
- 1 USB communication cable
- 1 Scotch-Brite™ Microfiber Cleaning Cloth

1. Remove the contents from the box and separate the components from the packing material.

2. Verify that all the parts described have been received. If any parts are missing, contact 3M Global Technical Services (GTS).
   For more information, see Appendix D: Customer Service on page 27.

3. Store the packaging in the event that the reader may require reshipment to 3M for maintenance.

   Note: Allow the reader to come to room temperature for a minimum two hours before operation, if it has been stored below room temperature.

Installing the Software

You must have PC Administrative rights to install the software.

Note: Consult with your IT support representative to confirm the proper installation procedures.

Uninstalling Previous Versions

If an earlier software version is installed on host computer, this earlier version will need to be removed.

1. Shut down **Remote Locator** by right clicking on the icon in the system tray.

2. Remove the program **3M Document Authenticator** using the Add/Remove Programs feature in the Control Panel.

Figure 9: Add/Remove Programs window
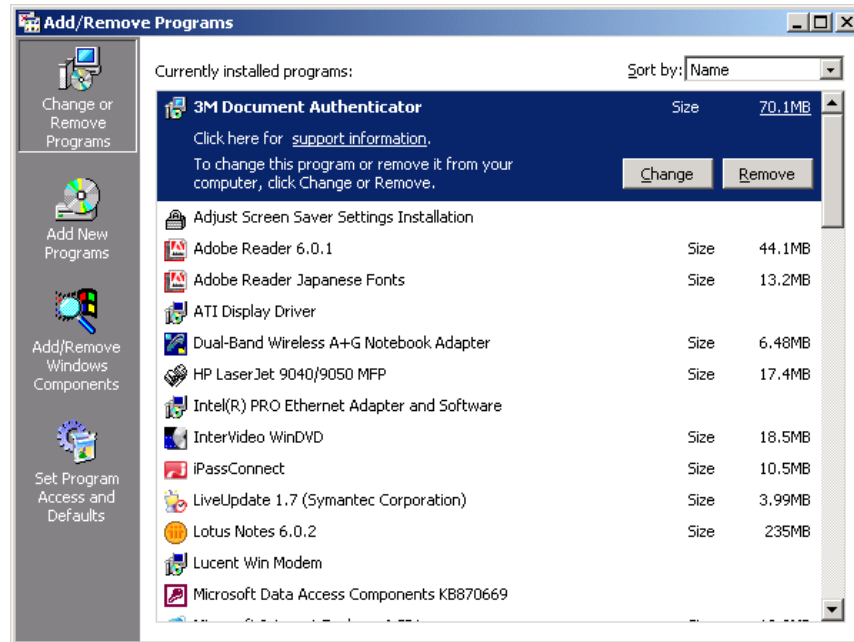
3. Reboot the PC.

4. Delete the existing folder **C:\Program files\3M Document Authenticator**.

Installing the New Version

1. Insert the CD supplied with the unit into the CD drive.

   Note: If "Autorun" is enabled, installer.exe will run automatically. If "Autorun" is not enabled, follow the steps below:

2. Run the **Installer.exe** application from the CD.

   Note: Do not run BaseSetup.exe.
   The Authentication Software Installer window opens.

Figure 10: Authentication Software Installer window
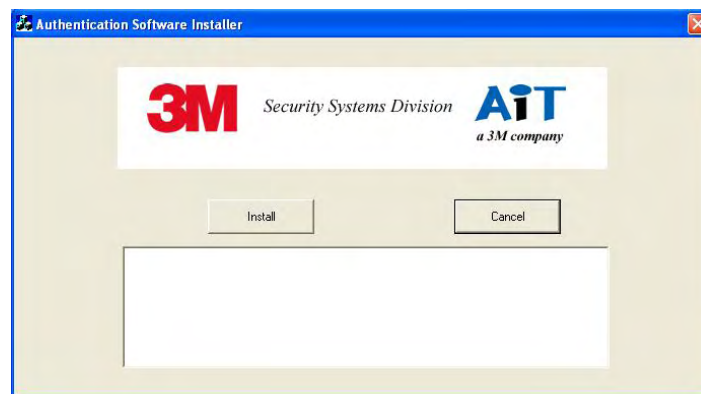
3. Click **Install**.
   The 3M™ Authenticator InstallShield Wizard window opens.

Figure 11: 3M™ Authenticator InstallShield Wizard window

4. Select **Authentication Manager**.

5. Click **Next** to proceed with the installation, and follow the on-screen instructions.

6. At the end of the installation, click **Finish**.

   Note: It is important to wait until the Installer is finished copying the core programs and the **Cancel** button changes to **Done**. Do not click **CANCEL** or **X** to close this program, unless you want to terminate the installation. It may take 30 seconds to complete this step.

Figure 12: Complete the Installation

7. Click **Done.**

8. Create desktop shortcuts for the **SalesDemo** and **RFissuer** applications. These applications are installed by default in the C:\Program Files\3M Document Authenticator folder and are used to verify or troubleshoot reader operation.

9. You are now ready to install your reader.

Connecting to a Host System

The reader is supplied with a USB communication cable.

1. Insert the USB connector of the supplied cable into a USB port on the host system.

2. Insert the USB connector of the supplied cable into the USB port, located on the back panel of the reader.

    Note: The ends of the USB cable are keyed (square for the reader and rectangular for the PC) for easy identification.

Connecting the Power Supply

1. Connect the DIN connector from the power supply to the power connector at the rear of the reader.

    Note: There is only one orientation that will allow the DIN cable to be connected to the shielded power port.

2. Connect the AC cable to a functioning power outlet.

3. Turn on the power switch.

Installing the USB Driver

If the reader is detected as a new USB device, you must install the USB drivers.

Note: This procedure is based on Windows® 2000 SP4, but the Windows® XP operating system is similar.

1. In the Upgrade Device Driver Wizard, select **Display a list of the known drivers for this device so that I can choose a specific driver** and click **Next**.

2. Click **Have Disk**.

    The **Install From Disk** window opens.

3. Click **Browse** and locate the SW00296x.INF file that was provided with the reader.

    Note: The USB driver was written to folder "3M document authenticator" during software installation.

4. Select the file, and click **Open**.

5. Click **OK**.
    A list of models appears.

6. Select 3M Full Page Reader with USB2 and click Next.

    A warning appears, stating that the driver is not signed by Microsoft. Click **Yes** to continue.

7. Click **Next** to install the driver.

8. When the driver finishes installing click **Finish**.

Installing the Smart Card Reader Drivers

When the reader is connected to the USB port of the PC or is powered up after connecting for the first time, the system automatically prompts you to install two drivers: the smart card reader driver and the contactless reader driver.

Note: These drivers apply only to the 3M™ ePassport Reader.

Smart Card Reader

The Smart Card Reader Driver allows the reader to accurately read smart cards, including contactless chips.

The system automatically prompts you to install the driver.

Figure 13: Smart Card Reader Driver Prompt
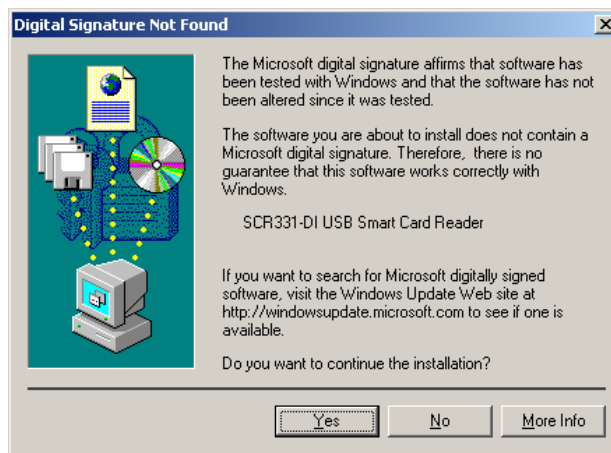
1. Click **Yes** to continue.
    The **Files Needed** window opens.

Figure 14: Files Needed window
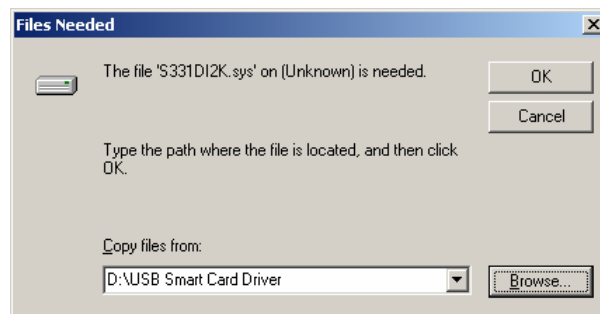
2. Click **Browse.**
    A dialogue box opens.

3. Locate the "USB Smart Card Driver" folder in the "3M Document Authenticator" folder created during software installation.

4. Click **Open**.
    The dialogue box closes.

5. Click **OK** to complete the installation.

Contactless Reader

The Contactless Reader Driver allows the reader to accurately read contactless chips.

The system automatically prompts you to install the driver.

Figure 15: Contactless Reader Driver Prompt
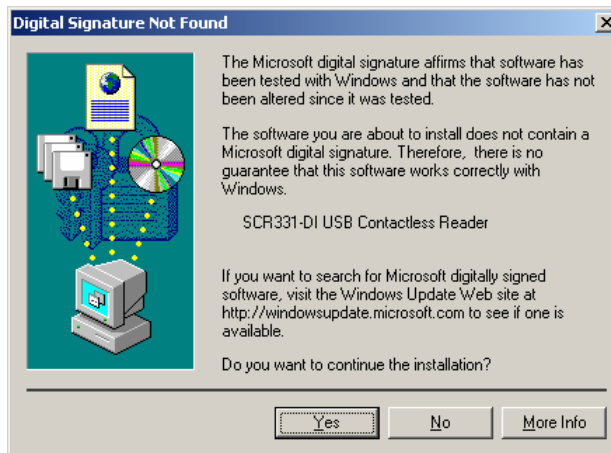
1. Click **Yes** to continue.
    The **Files Needed** window opens.

Figure 16: Files Needed window
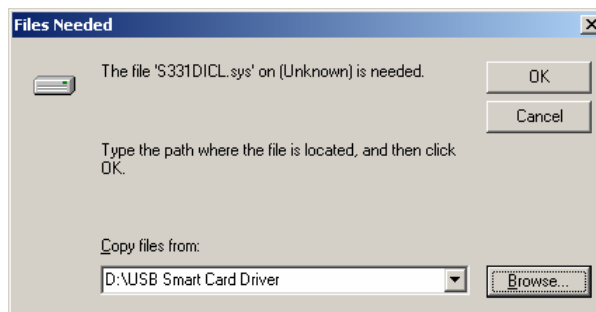
2. Click **Browse** and locate the folder.
    A dialogue box opens.

3. Locate the "USB Smart Card Driver" folder in the "3M Document Authenticator" folder created during software installation.

4. Click **Open**.
    The dialogue box closes.

5. Click **OK** to complete the installation.

Verifying the USB Driver Installation

1. Right-click on **My Computer** and click on **Properties**.
   The **System Properties** window opens.

Figure 17: System Properties window
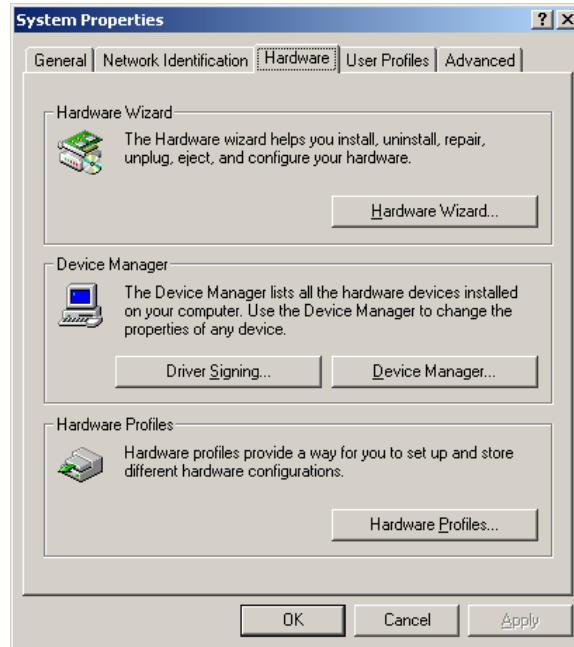
2. Click on the **Hardware** tab, then on **Device Manager**.
   The **Device Manager** window opens.

3. Expand (click on the plus sign) the entry called **Smart Card Readers**.

4. Verify that there are two entries for the SCR331-DI reader.

5. Expand (click on the plus sign) the entry called **Imaging Devices.**

6. Verify that there is an entry for 3M Full Page Reader with USB2.

Figure 18: Device Manager window
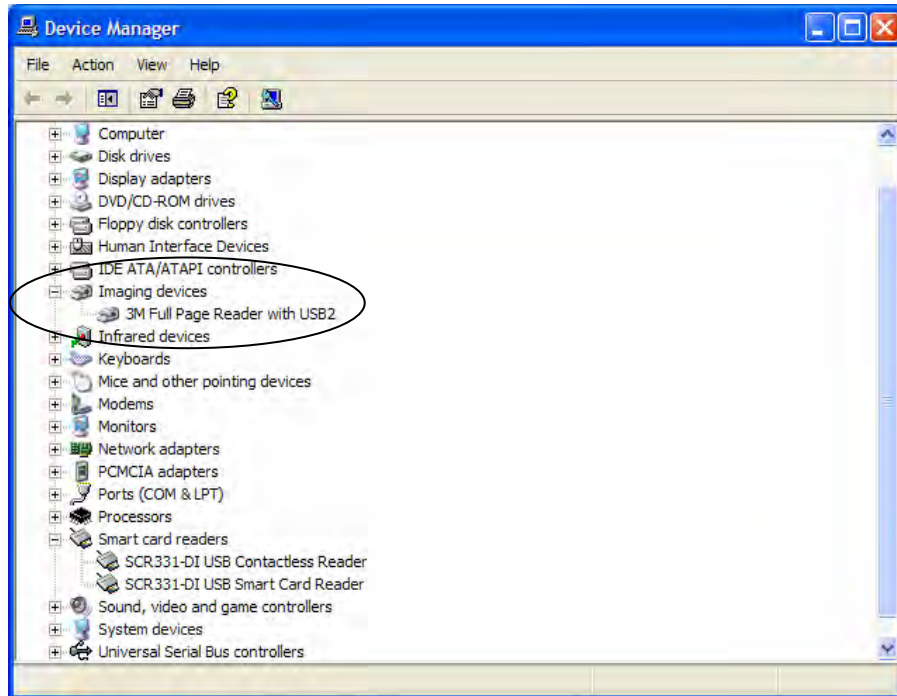
> **Note:** If you cannot verify that the drivers have been properly installed, turn the reader off and back on and try the installation again. If verification still fails, contact GTS. For more information, see Appendix D: Customer Service on page27.

Updating the USB Drivers

If you do not see the 3M Full Page Reader with USB2 entry, Windows® may be using an older version of USB drivers. To update the driver:

1. In the Device Manager, double-click the invalid device that looks like the reader.
2. Select the **Driver** tab, and click **Update driver**.
3. Follow the instructions above for performing the driver installation.

Power-up Self Test

A power-up self-test occurs automatically when the reader powers up. If the reader is installed correctly and is operational, the LEDs perform the following sequence:

1. All LEDs come ON briefly at initial power-up.
2. After several seconds the green LED (READY) remains ON, and all other LEDs go OFF.

The LEDs may also indicate the following common communication errors:

- The Ready LED flashes rapidly if no USB connection is detected.
- The Ready and Error LEDs flash rapidly if a USB 1.1 connection is detected.

> **Note:** The reader will not transfer document images over a USB 1.1 connection. However, RF (radio frequency) chip reading will function over a USB 1.1 connection (ePassport Reader only).

Testing Reading and Communication

This test determines if the reader is functioning properly.

1. Start the test application **SalesDemo.exe** from the shortcut created during software installation.

2. Verify that the green LED (READY) is on and the test application indicates **Ready to Scan**. (The reader is ready to accept documents).

3. Select the test card AW-00276 "Full Page Reader Test Card".

Figure 19: Test Card

4. Place the test card face down on the document window, aligned with the left guide, with the test card instructions facing up.

Figure 20: Test Card Placement

5. Push the card to the back of the document window until it stops.

    Note: Do not move the document during the scanning process.

6. Observe the LEDs during the scanning procedure.

- The READY LED turns off and the amber LED (BUSY) turns on.

- The amber LED (BUSY) remains on while the reader scans and processes the data.

- The green LED (OK) turns on, indicating a successful read.

- The READY LED turns on, indicating that the reader is ready to scan another document.

The data from the test card is sent to the host computer and the results displayed on the PC screen.

Reading Documents

The readers read the barcode and machine-readable zone (MRZ) text on both identification cards and passports. When the document is properly aligned on the document window, the image is taken and optical character recognition is performed (when there is OCR data) followed by the barcode recognition.

The readers read three kinds of 1D barcodes:

- 2 of 5 interleaved
- Code 39 (Code 3 of 9)
- Code 128

The ePassport reader can also detect and read information encoded on contactless integrated circuits (chips) in passports and ID cards. The position of the antenna in the reader means that a chip in a passport can be read even if not placed directly on the document window.

Identification Cards

Identification cards typically have a photo and basic information on the front and a 3-line MRZ on the back.

Figure 21: Sample Identification Card (Back)

1D Barcode

```
I<AITG1234567<8<<<<<<<<<<<<<<<
7010125F0304030UT0<<<<<<<<<<<7
BOOTH<<SUSAN<MAY<<<<<<<<<<<<<<
```

Start of MRZ
(Machine Readable Zone)

Passports

Passports have a photo, vital information and a 2-line MRZ on the front.

Figure 22: Sample ICAO-Compliant Passport (Front)

Optical Reading Procedure

1. Place the document face down on the document window, aligned with the left guide.

2. Push the document to the back of the document window until it stops.

   Refer to Reading Documents on page 16 for more information on correctly inserting a document.

   Note: Do not move the document during the scanning process.
   The light shield must remain down for an accurate read.The spring-loaded document guide will normally hold the document in place, allowing hands-free operation.

   However, curled or worn documents or documents with glossy laminates may need to be pressed flat onto the document window to ensure accurate reading.

3. Observe the LEDs during the scanning procedure.

- The READY LED turns off and the amber LED (BUSY) turns on.

- The amber LED (BUSY) remains on while the reader scans and processes the data.

- The green LED (OK) turns on, indicating a successful read.

- The READY LED turns on, indicating that the reader is ready to scan another document.

The data from the document is sent to the host computer.

Contactless Integrated Circuits Reading Procedure

To read passports with a chip, the ePassport reader is equipped with an antenna that completely surrounds the document window. Whether the chip is in the front or rear cover, the data page, or any other page, the reader's antenna will detect and read the chip. You do not have to turn the book around to ensure the chip is read. In issuance environments, the reader has the ability to write personalized information, like that on the data page, to the chip. This provides an additional level of security to the travel document. (For information on writing to contactless chips please contact Global Technical Services (GTS) at 3M.) The reader:

- reads and writes to ISO 14443 Type A and Type B ICs

- supports reader to chip transfer rate of 424 Kbps when applicable (IC dependent)

- provides functionality according to ICAO NTWG Technical Reports

The RF (radio frequency) technology used in the ePassport reader is very short range, and does not interfere with other electronic equipment such as PC monitors, wireless communications (for example, 802.11g) or cell phones. However, to ensure no interference between ePassport readers, you should maintain a minimum of 25cm (10 in) between readers.

RF Reading Procedure

1. Start the RF test application **rfissuer.exe** located in the 3M Document Authenticator folder created during software installation.

   Note: Rfissuer does not report its status to the LED display on the reader.

2. Verify that the **Enable Auto Read** check box is checked (this is the default).

3. Place the document on the document window, aligned with the left edge of the document window.

   Note: The reader is shown with the light shield up to better illustrate the procedure.
4. Push the document to the back of the document window until it stops.

   Note: The spring-loaded document guide will normally hold the document in place, allowing hands-free operation

5. The ePassport Reader reads the data from the chip and displays it on screen.

   Note: It may take several seconds to read RF information in the document.
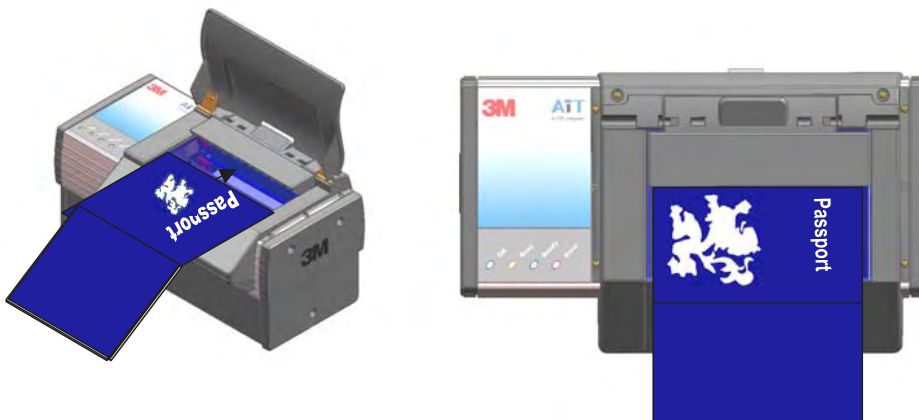
Figure 23: Document Placement

Maintenance

The reader must be cleaned on a regular basis. For extensive repairs, return the reader to 3M. See Return to Depot - Maintenance Procedure on page 28 for more information.

Cleaning

Clean the reader regularly to ensure proper performance.

Note: Use a safe cloth that will not damage glass, such as the Scotch-Brite™ Microfiber Cleaning Cloth (provided). To reorder cleaning cloths (G-00037), contact GTS. See Appendix D: Customer Service on page 27 for more information.

1. Unplug the reader.
2. Clean the document window with a clean cloth. For stubborn dirt, use a mild glass cleaner or a lightly dampened cloth (water).

   Note: Avoid using abrasive cleaners that may scratch the glass.

3. Verify that there are no streaks or smudge spots remaining on the document window.
4. Clean the body of the reader with a lightly dampened cloth (water).
5. Plug in the reader and turn on the power switch.
6. Verify that the power-up self test performs correctly. For more information, see Power-up Self Test on page 14.

Ultraviolet Tube Replacement

The UV tubes must be replaced after approximately 8000 hours of use.

Contact your GTS representative for detailed instructions.

Appendix A: Specifications
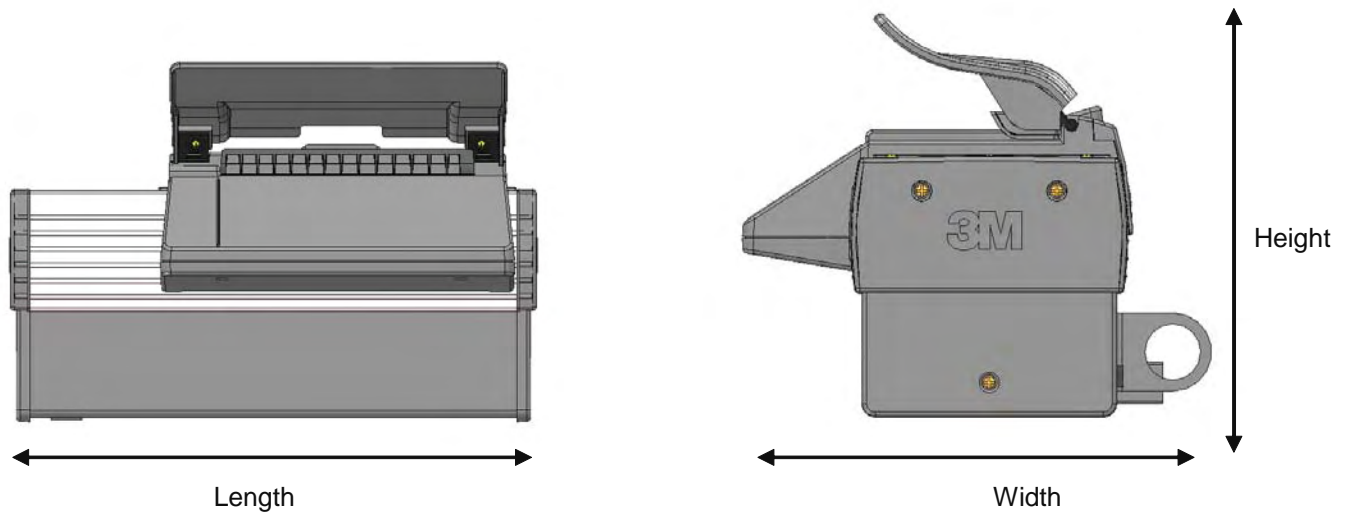
Figure 24: Physical Dimensions

Table 2: Physical Specifications

Dimensions	Length 26.0 cm (10.24"), Width 21.0 cm (8.27"), Height 18.0 cm (7.1")
Weight	3 kg (105.82 ounces)

Table 3: Electrical Specifications

Input voltage	12 V DC
Power consumption	12 watts
Connector	4 pin Mini-DIN

Table 4: Environmental Specifications

Temperature	
Operating	0 – 40°C (32 – 104°F)
Storage	-20 – 50°C (-4 – 122°F)
Humidity	
Operating	20 – 80% non-condensing
Storage	5 – 95% non-condensing

Table 5: Communication Interfaces and Protocols

Connection	
Interface	USB 2.0, 480 Mbit/s "High Speed"
Host USB Power	Reader draws no power from host USB connector
USB connector	USB A (host), USB B (peripherals)
USB cable length	2.00 m (79")
Aux. USB power	5V DC, 500mA total (both ports combined)
RF Chip	ISO 14443-2,3,4

Table 6: Power Supply Specifications

Input voltage	100 – 240VAC +/- 10%
Line frequency	47 – 63Hz
Cable length	DIN power supply cable: 1.3m (52") AC line cord: 2.0 m (78")
Power rating	18 watts

Table 7: Regulatory Information

Device Safety	
USA	UL60950
EEA	EN60950
RoW	IEC60950
EMC – emissions	
USA	FCC Part 15, sub-part J, Class B
Canada	ICES-003
EEA	EN55022 Class B
Australia	AS/NZS 3548
EMC – immunity	
EEA	EN55024
EMC	
EMC	ESTI EN 301 489-1 V1.2.1 (2000-08)
EMC	ESTI EN 301 489-3 V1.2.1 (2000-08)
EMC	ESTI EN 300 330-1 V1.3.1 (2001-06)
EMC	ESTI EN 300 330-2 V1.1.1 (2001-06)
EN50364	Limitation of human exposure to electromagnetic fields from devices operating in the frequency range 0 Hz to 10 GHz, used in electronic article surveillance (EAS), radio frequency identification

| (RFID) and similar applications. |

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Appendix B: Troubleshooting

Use this table to identify and correct common issues encountered when using the reader. If a problem cannot be solved using this table, contact Global Technical Services (GTS) at 3M.

Table 8: Troubleshooting Cases

Symptom	Possible Causes	Actions
The LEDs do not come on during power up.	There is no power to the reader.	• Verify that the power switch is in the ON position. • Verify the AC power source. • Verify that the AC cable is connected to the AC power source. • Verify that the power cable is connected to the power supply port located on the back panel.
	The unit is damaged.	• Follow the procedure outlined in Appendix D: Customer Service on page 27.
The reader is not communicating with host PC system.	The cable is not properly connected or USB drivers are not properly installed.	• Verify that the USB cable is connected to the host. • Verify that the USB driver is installed. Follow the procedure outlined in Installing the USB Driver on page 10. • Verify that only one reader is connected to the host system.
The Error LED illuminates when a document is scanned	The document is non-machine readable.	• This is a normal condition when there is no machine readable data and only the image is captured from the document.
	The document is poorly printed.	• The reader is designed to read documents that are poorly printed. However, some documents are of such poor quality that the reader will not be able to process the OCR data. • The document may not conform to the specification for the document template.
	High ambient light or the document is fake.	• Ensure the light shield is down during document scanning. • Re-orient the reader so that bright light does not fall directly on the document window.

|	The unit is not configured to read the document being scanned.	• Verify the affected reader configuration with technical staff • Contact Global Technical Services (GTS) at 3M.
	The document is not orientated correctly on the scanning window.	• For details on document placement, see Reading Documents on page 16.
	The document is faulty or non-compliant.	• Verify the document conforms to ICAO 9303 or OCR B font requirements
The Ready LED is continuously blinking.	The USB cable is not connected.	• Verify that the cable is installed.
	The system has no USB 2.0 capability.	• Verify that the USB 2.0 hardware is ready. Refer to Appendix C "Check for High speed USB"
The Sales Demo application is not working.	The software is installed incorrectly.	• The application may already be running. Verify that only one copy of the application is running. • Remove the existing application & re-install software. For more information see the Software Installation section
	You do not have PC Administrative rights.	• Consult with your IT support representative.
LEDs do not change after reading an RF chip		• This is a normal condition. RF status is displayed only on the host screen.
Reader becomes unresponsive	Depending on the implementation of the PC application and the volume of USB traffic, AC line transients may cause unrecoverable errors in USB data transmissions.	• Restart the PC application or disconnect and reconnect the USB plug from either the PC or the reader.

Appendix C: Check for High Speed USB 2.0

The reader is a **USB 2.0 device** and requires Microsoft® Windows® 2000-SP4 or Windows® XP.

Note: The reader will not function in a USB1.1 environment. Make sure a commercially-available USB 2.0 card is installed in your PC. For problems with your operating system, consult with your local IT representative. For other problems contact GTS. For information, see Before Contacting GTS on page 27.

Windows® 2000

1. In Windows® 2000, right-click **My Computer** and select **Properties**.

**Figure 25: System Properties window**
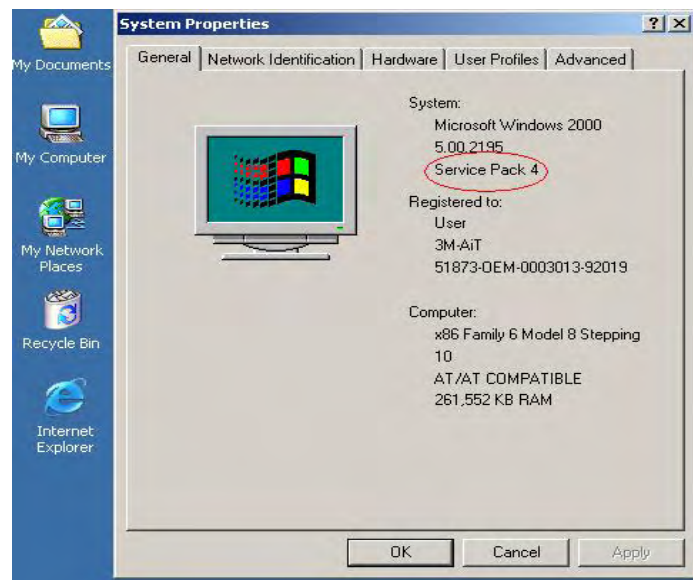
2. Locate the version number on the **General** tab and verify that **Service Pack 4** or greater has been installed.

3. Right-click **My Computer** and select **Manage**.

4. Click on **Device Manager** in the **Tree** list.

5. Under Universal **Serial Bus controllers** locate **USB 2.0 Root Hub**.

Figure 26: Windows® 2000 SP4 Computer Management window
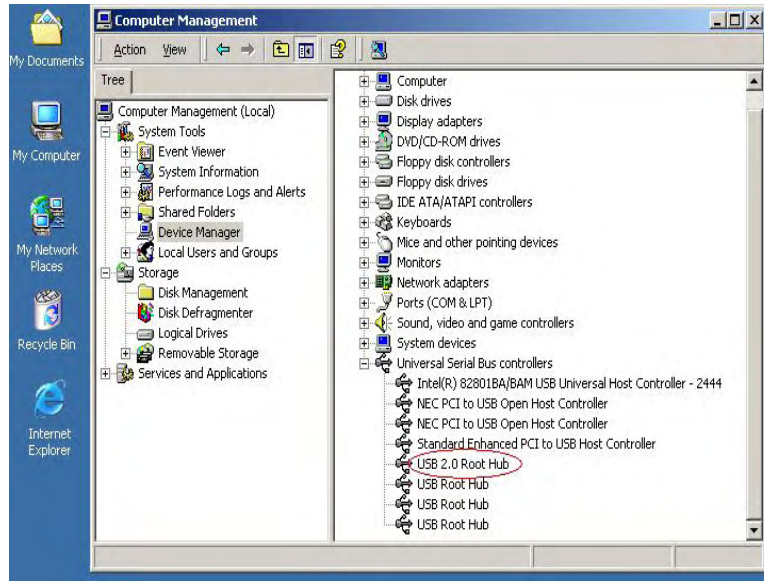
6. If your **Device Manager** displays **USB 2.0 Root Hub**, the system has high speed USB 2.0 capability.

Windows® XP

1. In Windows® XP, right-click **My Computer** and select **Manage**. Click on **Device Manager** in the **Tree** list.

2. Under **Universal Serial Bus controllers** locate an "Enhanced" entry.

Figure 27: Windows® XP Computer Management window
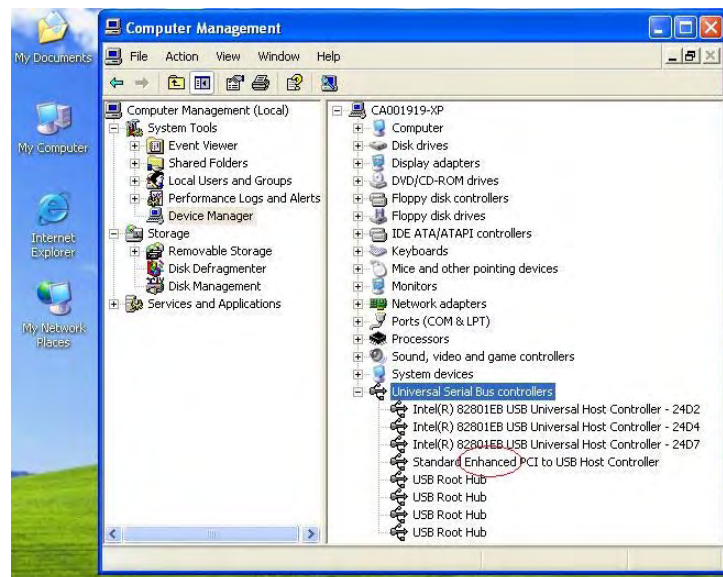
3. If your **Device** Manager displays **Enhanced USB Host Controller**, the system has high speed USB 2.0 capability.

Appendix D: Customer Service

If a problem cannot be solved using Appendix B: Troubleshooting, contact Global Technical Services (GTS) at 3M.

Before Contacting GTS

Be prepared to provide the information required to properly diagnose the problem:

- A detailed description of the problem

- A detailed description of the actions taken to correct the problem

- The serial number of the reader (located on the bottom panel)

Contacting GTS

Once you have the information regarding the problem, use one of the following methods to contact GTS:

North America

GTS direct line:	+1 613-722-3629
3M main number:	+1 613-722-2070
fax:	+1 613-722-2063

UK Office

GTS direct line:	+44 (0) 1344-858371
3M-UK:	+44 (0) 1344-858000
fax:	+44 (0) 1344-858792
email:	3M-AiT-gcs@mmm.com

Return to Depot - Maintenance Procedure

In the event of a suspected problem with 3M equipment:

Diagnose   The end user system manager will ascertain that there is an actual fault with the equipment that cannot be rectified with the use of the applicable User Guide or local in-house knowledge.

Initiate Call   The end user system manager should contact GTS through one of the following communications mediums: phone, fax, or email. A detailed description of the problem along with the serial number of the unit will be requested. It is THE CUSTOMER's responsibility to include or have on hand all pertinent information.

Response/Call Back   A GTS representative will discuss with the end user system manager to ascertain the nature of the problem. If the problem can be rectified locally by the end user system manager with the guidance of the GTS representative, no further action will be required.

Return Authorization   If the problem cannot be rectified using telephone assistance, the GTS representative will issue a Return Materials Authorization (RMA) number which will be used to track the failed reader, along with verification of the location of the service depot to where it should be sent.

                                The RMA number should be prominently displayed on the shipping container in which the reader is being returned. This reference number will ensure prompt processing of the equipment once it arrives at 3M.

Return   The end user system manager will carefully disconnect the defective equipment. The reader should ideally be packaged in its original packing box. If not, a suitable box with sufficient packing material should be used to minimize damage during transit. The CUSTOMER is responsible for insurance coverage on the reader during transit to 3M in case of loss or damage. The reader should then be returned to the 3M designated service depot.

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Travel Document Reader User Guide

Repair
When the defective equipment is received at the service depot, the reader will be repaired, tested and returned to THE CUSTOMER's central depot. Subject to unavoidable delays, this effort should not exceed 10 business days (exclusive of shipping time).

Shipping Instructions
Four copies of a commercial invoice, a packing slip, a pro forma invoice, or the following information, typed on letterhead, must be sent with the reader:

- Description of equipment, including serial numbers
- Quantity
- Value and Country of Origin
- Exporter (customer's company)
- Consignee (3M)

Please affix the instructions to the outside of the container.

3M Reader Service Depots

North America:

1525 Carling Avenue
Suite 100
Ottawa, Ontario
CANADA
K1Z 8P9

United Kingdom:

3M United Kingdom PLC
3M Centre Cain Road
Bracknell, Berkshire
RG12 8HT

DT-01715C

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