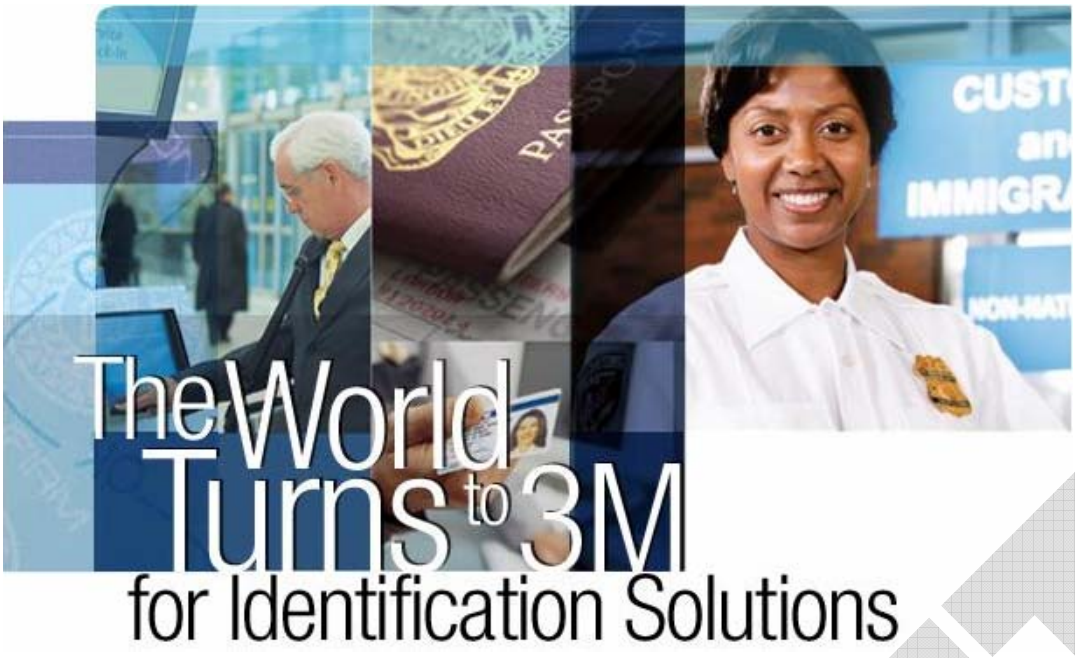

Security Systems Division

3M™ e-Passport Kiosk Reader

User Guide

Document Type: User Guide
Date: 29/11/2007
Revision: DT-1822A_DRAFT
Submitted by: 3M Canada Company

Proprietary Statement

By using the 3M™ Kiosk ePassport Reader or 3M™ Kiosk Full Page Reader (each, a "Product"), you (the "User"), agree to be bound by the following terms and conditions.

Because use of the Product varies widely and is beyond the control of 3M Canada Company ("3M"), the User must evaluate and determine whether a Product is fit for a particular purpose and suitable for User's application prior to use. THE FOLLOWING IS MADE IN LIEU OF ALL EXPRESS AND IMPLIED WARRANTIES OR CONDITIONS (INCLUDING WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE). If a Product is proved to be defective (the "Defective Product"), the exclusive remedy, at 3M's option, shall be to either repair or replace the Defective Product or refund the purchase price of the Defective Product.

LIMITATION OF LIABILITY: 3M AND SELLER, IF ANY, SHALL NOT BE LIABLE FOR ANY INJURY, LOSS OR DAMAGE, WHETHER DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL HOWSOEVER CAUSED, (INCLUDING DAMAGES FOR LOSS OF PROFITS, BUSINESS INTERRUPTION, LOSS OF BUSINESS INFORMATION, INCREASED COSTS OF OPERATION, LITIGATION COSTS AND THE LIKE), WHETHER BASED UPON A CLAIM OR ACTION IN CONTRACT (INCLUDING BREACH OF WARRANTY), TORT, (INCLUDING NEGLIGENCE) OR OTHERWISE, IN CONNECTION WITH THE USE OR PERFORMANCE OF A PRODUCT.

U.S. Pat Nos. 6,019,287 and 6,611,612

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EMC 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: DGFSSDPV35

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

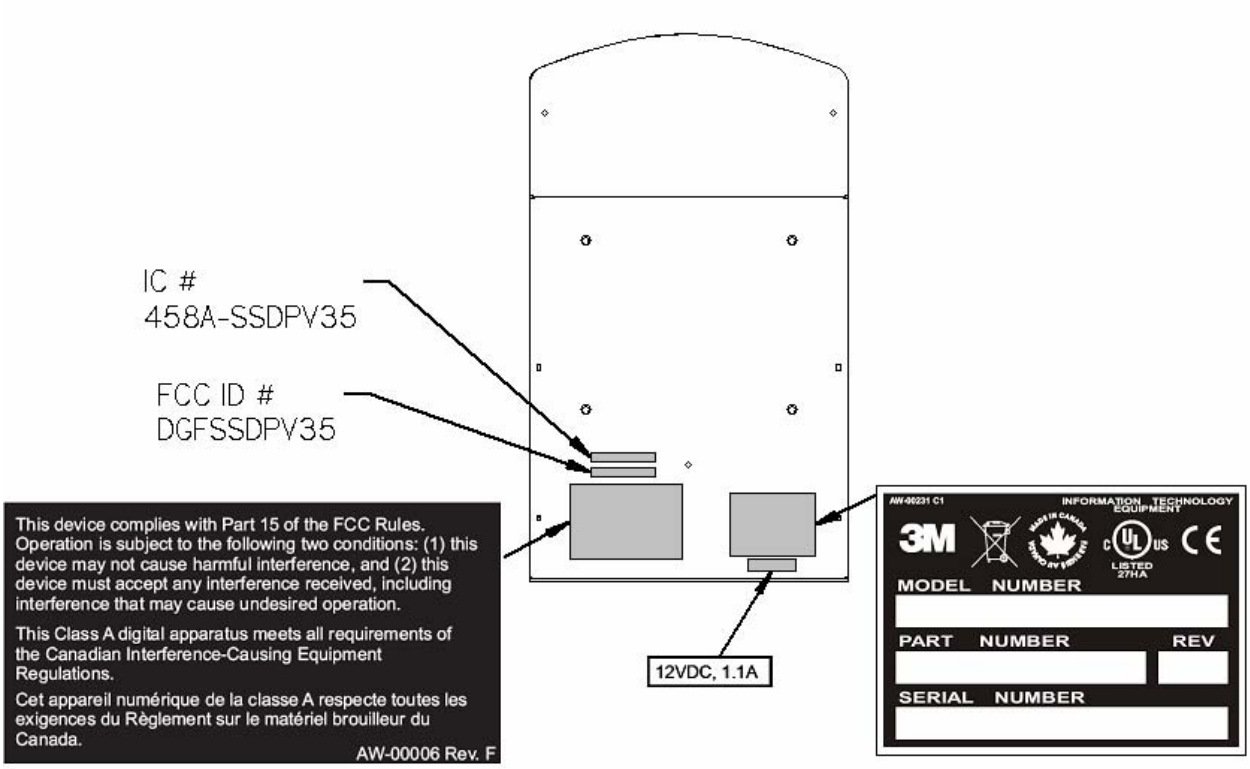
This Class A digital apparatus complies with Canadian IECS-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

IC: 458A-SSDPV35

EMC Compliance Europe

This equipment complies with the requirements of the Radio & Telecommunications Terminal Equipment (RTTE) and Electromagnetic Compatibility (EMC) directives.

Safety Label Locations



Note: Depending on the reader model, some labels may not be present.

Table of Contents

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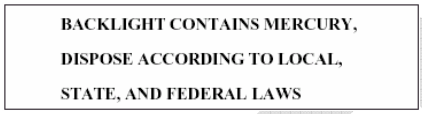
Safety Information

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.

Intended Use

These readers optically scan passports, ID cards and other travel documents. They also read Contactless Integrated Circuit chips integrated into travel documents. They are intended to be used in a dry indoor environment only, physically installed within a self-service kiosk that provides a mechanical housing and limits user access to placing travel documents on the reader's glass imaging surface. They have not been evaluated for other uses, such as stand-alone desktop use, or other environmental conditions.

Explanation of Product Safety Label Symbols	
	**Warning: Indoor Dry Location Use Only**
	**Attention: Refer to Instructions**
	**Display Unit: Mercury disposal hazard**

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 a 3M-approved 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: The UV tube contains Mercury. Dispose according to applicable local, state, provincial or federal laws.

Introduction

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

- 3M™ Kiosk Full Page Reader, model # PV35-00-xx
- 3M™ Kiosk ePassport Reader, model # PV35-02-xx

These readers are designed to be used as a component of a self-service kiosk in applications that require the reading of travel documents such as passports and ID cards. They are intended to be physically installed within the kiosk, relying on the kiosk to provide a mechanical housing and limit user access to placing travel documents on the reader's glass imaging surface. The readers are supplied with a software SDK and sample code to allow kiosk developers to customize their applications.

This manual is intended to be used by kiosk hardware developers and integrators. It provides mechanical and electrical specifications required to incorporate the readers into a kiosk as well as guidance on the operation, troubleshooting and maintenance of the readers.

Features Overview

The 3M™ Kiosk Full-Page Reader and 3M™ Kiosk ePassport Reader 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 read data from documents encoded with:

- machine-readable text
- 1D barcodes
- customized client requirements
- contactless Integrated Circuit (IC) chips (optional)

The readers capture full-page document images using:

- Visible color illumination
- Near-infrared (B900 band) illumination

The readers perform optical character recognition on identity documents including those that conform to International Civil Aviation Organization (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™ Kiosk Full Page Reader

- Full-page visible and infrared (IR) imaging
- Optical character recognition (OCR)
- 1D Barcode reading

3M™ Kiosk ePassport Reader

The 3M™ Kiosk ePassport Reader includes all the functionality of the Full Page model and can also detect and read information encoded on contactless integrated circuits in passports and ID cards. The reader:

- reads ISO 14443 Type A and Type B ICs
- supports reader to chip transfer rate of up to 424 Kbps when applicable (IC dependent)
- provides functionality according to ICAO NTWG Technical Reports

To read passports with a chip, the reader is equipped with an antenna that completely surrounds the document window and tray. 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. The user does not need to turn the book around to ensure the chip is read.

The RF (radio frequency) technology used in the 3M™ Kiosk 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.

Document Images

The following are examples of infrared and visible imaging:

Figure 1: Infrared Image

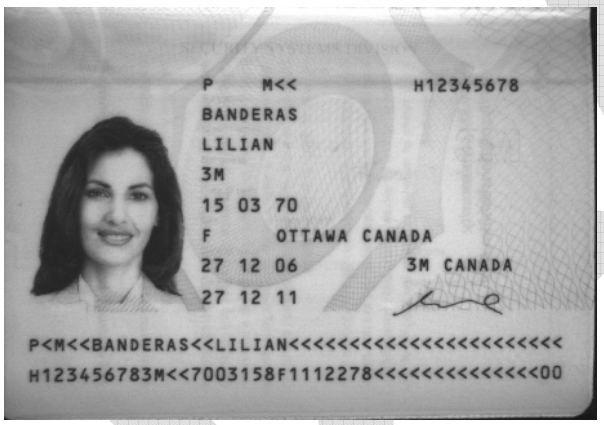


Figure 2: Visible Image

Related Documents

For more information on mechanical details, advanced features and software interfacing, see:

- Mechanical Drawing, Kiosk Full Page Reader (DT-01823)
- 3M™ Reader Authentication System Software Developer's Reference (DT-01675)
- 3M™ Reader Authentication Manager Central Administration Utility Manual (DT-01674)
- ePassport Manager Interface SDK (COM / Active X) Developer's Reference (DT-01714)

Product Description

The readers are self-contained devices designed to be incorporated into a self-service kiosk terminal. The main hardware features are:

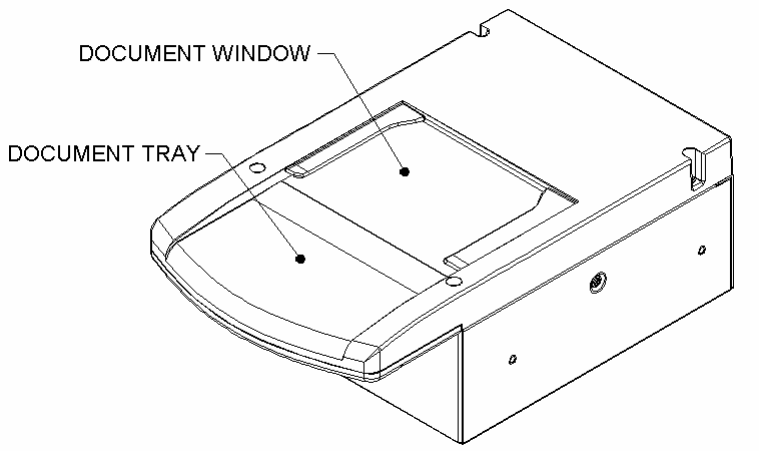
- A document window and tray for placement of documents to be read
- A back panel containing communication, status LED and power connection ports
- Attachment points for mounting the readers to a kiosk chassis

Document Tray and Window

The document window is a glass surface measuring 132mm x 88mm located on top of the reader. Users place documents on the document tray, imaging side down, and slide them to the back of the document window to scan them. Guides on the document tray help align the document and keep it pressed onto the glass window. The document window is slightly larger than ICAO 9303 requirements to accommodate oversized documents.

Keep the document tray and window clean to ensure optimum operation of the reader. See Cleaning on page 20 for more information.

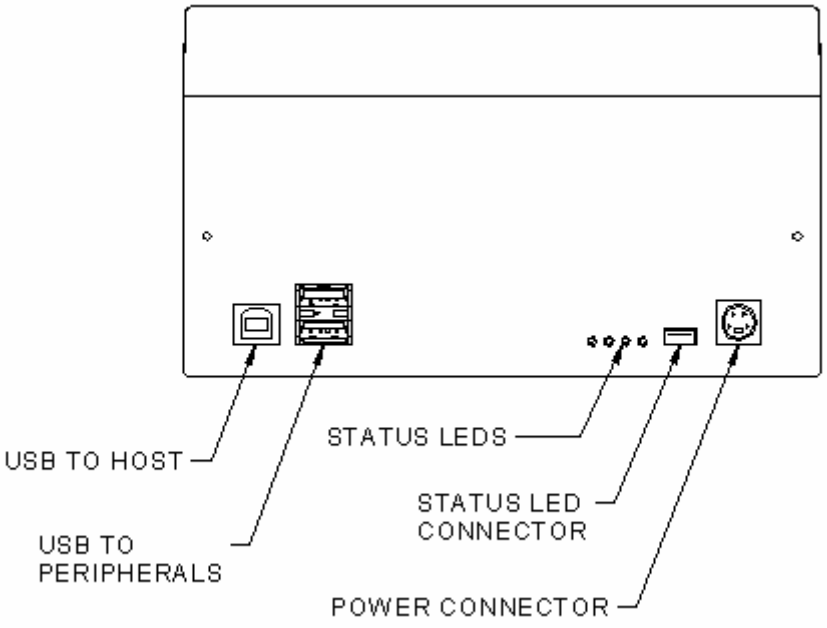
Figure 3: Document Tray and Window



Back Panel

The back panel features the USB communication ports, status LED's, a connector to drive a secondary set of status LED's and a power supply connector.

Figure 4: Back Panel Ports



USB Ports

Communication to and from the host PC is via USB 2.0. The USB host interface is a standard Type B connector. The reader does not draw any power from the host.

A built-in USB hub and two auxilliary USB 2.0 Type A connectors allow you to connect additional USB peripherals such as a mouse, keyboard, etc. The two USB peripheral connectors are capable of supplying +5V DC at a total of 500mA to the peripherals (e.g. 500mA to a single peripheral, 250mA to each of two peripherals, etc.).

Status Indicator LED's

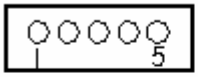
The status LEDs are intended to assist a technician to install and debug the reader, and indicate the reader status and the result of scanning a document. They are not visible by a user.

Table 1: Indicator LEDs

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.

A five-pin header is provided to drive a remotely-located status LED display on the kiosk, or to allow the kiosk hardware to monitor the status of the reader. The reader connector is designed to mate with Molex p/n 0874390600 housing and 87421 crimp terminals. The remote status LED's are assumed to have a common anode at +3.3V. The reader will pull connector pins to ground through 200-ohm resistors, supplying approximately 7.5mA per LED. Pin assignment of this connector is shown in the following figure.

Figure 5: Status LED Connector

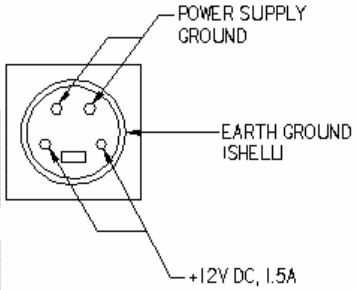


PIN	FUNCTION
1	+3.3 V DC
2	READY
3	OK
4	ERROR
5	BUSY

Power Connector

The reader must be connected to a UL-Listed DC power supply capable of providing +12V DC at 1.1A. The connector pinouts are shown in the following figure.

Figure 6: Power Supply Connector

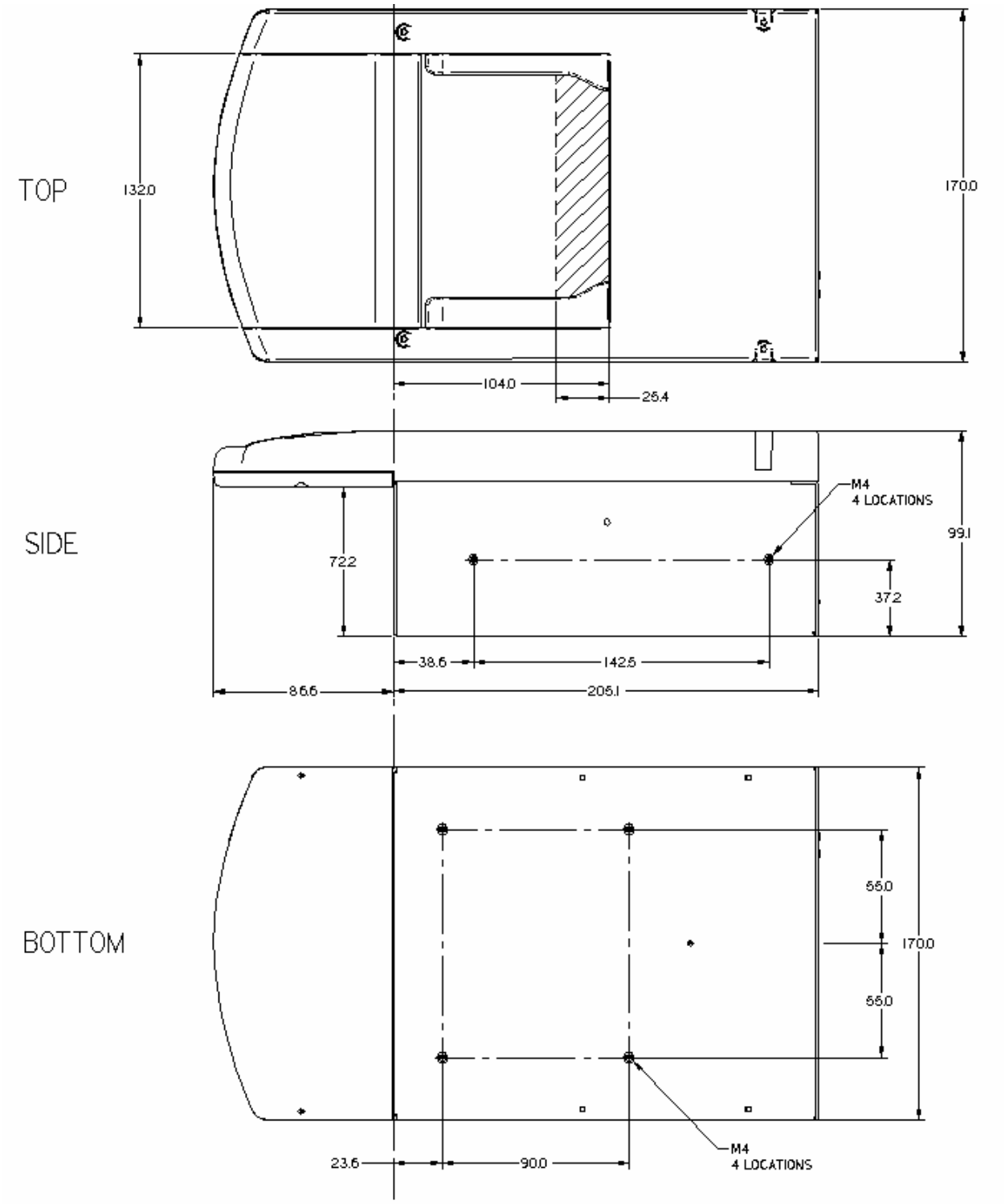


Mounting Points

The readers contain eight M4 threaded mounting bosses, two on each side and four on the bottom, as shown in the following figure. The preferred mounting points are on the bottom. If the side mounting points are used, care must be taken in the design of the kiosk mounting surfaces to ensure that tensile stress is not placed on the reader chassis. The M4 hardware should protrude into the reader chassis no more than 8mm.

At the factory all eight bosses are filled with threaded plastic inserts to prevent dust entry into the enclosure.

Figure 7: Mounting - Mechanical Detail



Installing the Hardware

Unpacking the Reader

Each reader package consists of:

- 1 reader
- 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 26.
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.

Kiosk Design Considerations

The reader is designed to be mounted behind the kiosk front panel with only the document tray protruding. The front panel must provide an opening to allow users to insert their documents and hold them flat on the document glass for scanning. The opening should form a box, open at the front and closed at the top, sides and back.

To better illustrate this, a typical kiosk concept is shown in the following figures. It is recommended that the material forming the document cavity and the front fascia around the reader be non-metallic (e.g. Polycarbonate) to avoid affecting the RF performance. This is illustrated in red in the following figures. The cutaway view shows the reader mounted to the bottom surface of the kiosk chassis, with the plastic insert forming the document cavity. The document cavity must allow sufficient clearance for a user's hand to hold the document down on the glass.

To assist in the mechanical design, 3D CAD models of the reader are available in all popular formats. Contact your Sales representative or 3M Global Technical Services (GTS) for details.

Figure 8: Kiosk Concept - Front View

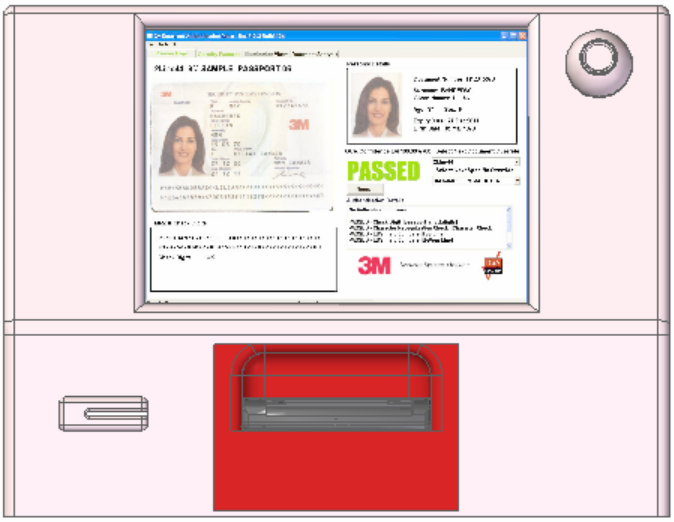
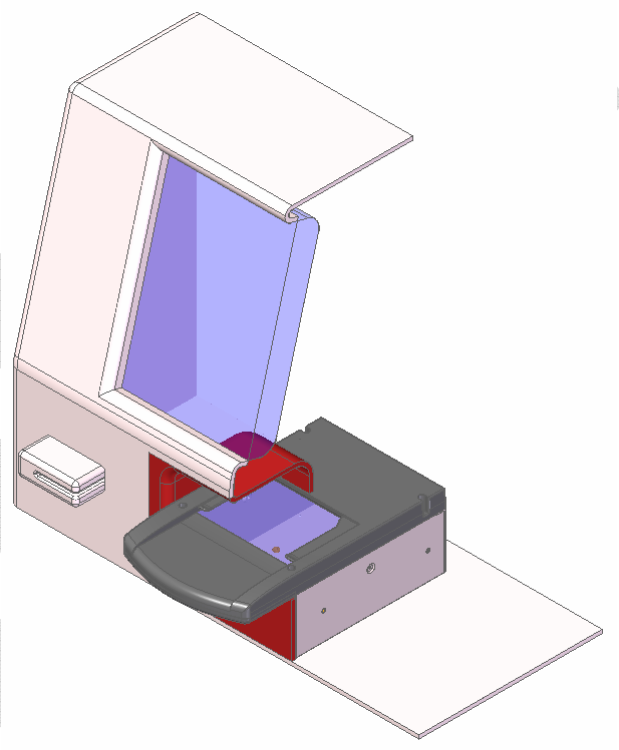


Figure 9: Kiosk Concept - Cutaway View



The reader is designed to be held in place using four M4 machine screws. See the previous section for detailed mechanical dimensions of the reader and its threaded mounting points.

When designing a kiosk to accommodate the reader, consider the following factors:

- Attach the reader using the bottom attachment points, if possible

- In ePassport models, keep metallic surfaces away from the document tray and document glass. These areas contain the RFID antenna, and RF reading can be disrupted by the presence of metal in the RF field
- In ePassport models, the front fascia should be plastic or a non-metallic material
- In ePassport models, do not allow a metallic surface under and parallel to the document tray
- Allow sufficient clearance above the document window for the user to hold the document down on the document window
- The document window must be shielded as much as possible from direct lighting (reference mechanical drawing DT-01823), and any surfaces directly above the document window must be matte black. Failure to observe this may cause unreliable document detection.
- The reader should be inclined 5° to 10° to prevent liquid from entering the kiosk and discourage its use as a shelf.

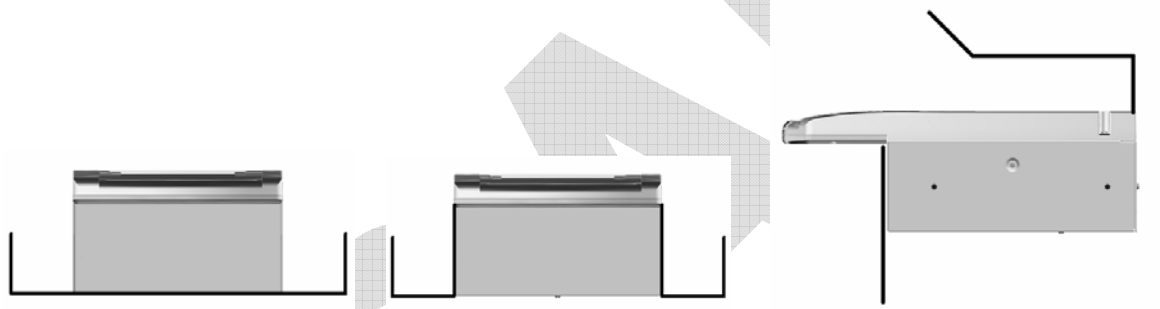


Figure 10: Mounting - Recommended

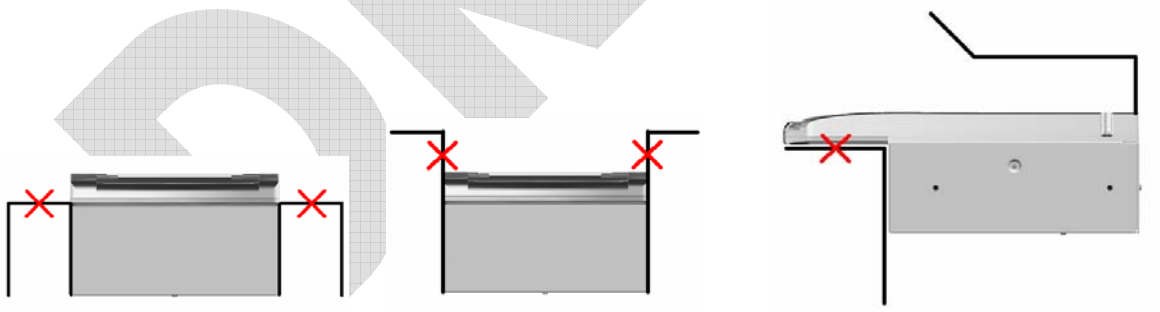


Figure 11: Mounting - Not Recommended

Connecting the Power Supply

The reader is designed to be powered from a switched, UL-listed power source supplied with the kiosk and terminating in a suitable DIN connector. The reader is not supplied with a power cable or power supply and does not have a power switch.

Connect the DIN connector from the power supply to the power connector at the rear of the reader, and secure or tie-off the cable as required.

A suitable power supply, p/n CA000006747, may be purchased from 3M if required. Contact your Sales representative or 3M Global Technical Services (GTS) for details.

Connecting to the Host System

The reader is supplied with a 2-meter USB A-B 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.
3. Secure or tie-off the cable as required.

Installing the Software

There are four steps to installing the software:

- Check the host PC requirements
- Install the software from the installation CD
- Verify the USB Driver Installation
- Updating the USB Drivers

Checking the Host PC Requirements

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

Note: See Appendix C for instructions on how to check for USB2.0 compatibility.
Do not attempt to install the application without the required operating system and service packs prior to installation.
You must have PC Administrative rights to install the software.

Installing the Software

The installation CD installs:

- 3M Authentication Software and SDK
- Imaging Device Driver
- Smart Card Reader Driver (ePassport option only)
- Contactless Reader Driver (ePassport option only)
- Additional SDKs based on the reader model

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

Note: If "Autorun" is enabled, the installer will run automatically.
If "Autorun" is not enabled, run the **Setup.exe** application from the CD.

The InstallShield® Wizard window opens to install the 3M Document Authenticator.

Figure 12: InstallShield® Wizard window

2. Click **Next**.

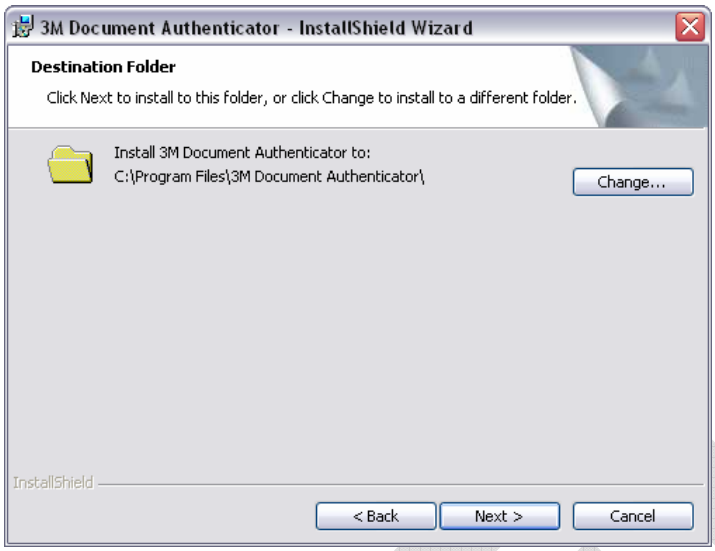
The License Agreement window opens.

Figure 13: License Agreement window

3. Select **I accept the terms of the license agreement**.
4. Click **Next** to proceed with the installation.

The **Destination Folder** window opens.

Figure 14: Destination Folder window



5. Specify a destination folder where the software will be installed and click **Next**. The software is installed.

Figure 15: Installation Progress window

When the installation is complete, the **InstallShield Wizard Complete** window opens.

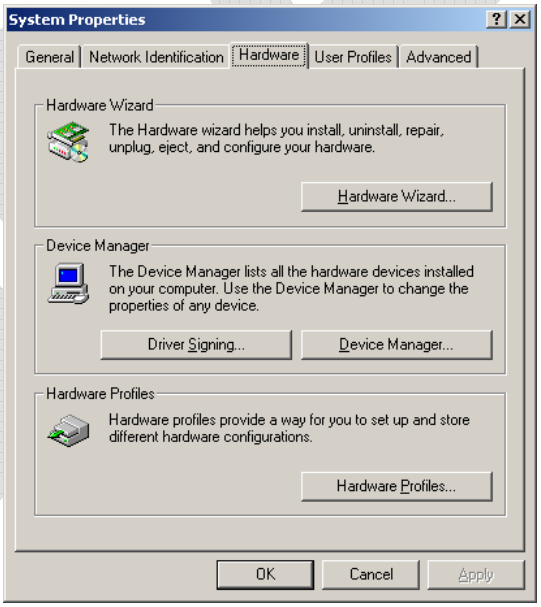
Figure 16: InstallShield Wizard Complete window

6. Click **Finish**.

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



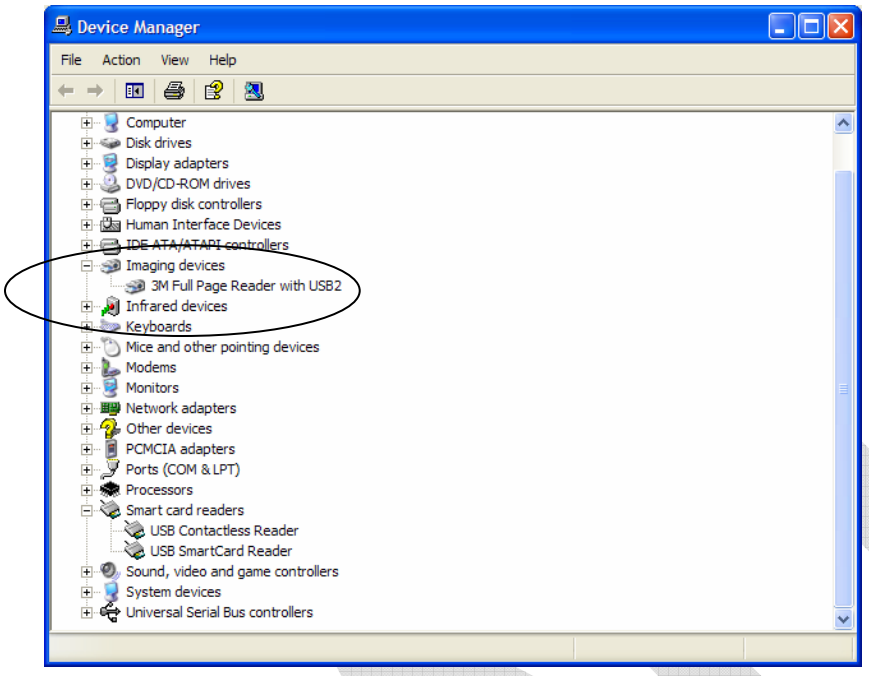
2. Click on the **Hardware** tab, then on **Device Manager**.

The **Device Manager** window opens.

3. Expand (click on the plus sign) the entry called **Smart Card Readers**.
4. Verify that there are entries for the USB SmartCard and USB Contactless Readers (ePassport option only).
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 page26.

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 status LEDs perform the following sequence:

- All LEDs come ON briefly at initial power-up.
- 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:

LED Behaviour	Meaning
The Ready LED flashes rapidly	No USB connection detected
The Ready and Error LEDs flash rapidly	USB 1.1 connection detected

Note: The reader will not transfer document images over a USB 1.1 host connection. However, RFID chip reading (ePassport option only) and any USB 1.1 peripherals attached to the reader will function over a USB 1.1 host connection.

Testing Reading and Communication

This test determines if the reader is functioning properly.

1. Start the test application from the **3M Sales Demo** 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 DS-00031 (ePassport) or DS-00034 (Full Page) supplied with the reader.

   Note: Readers with the ePassport option are supplied with test card DS-00031 containing OCR data as well as a programmed contactless chip. Readers without the ePassport option are supplied with test card DS-00034 containing only OCR data.
4. Place the test card face down on the document tray, aligned with the left guide.
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.
7. For readers equipped with the ePassport option, select the **Security Features** tab, then select **RFID Check**. The data stored on the contactless chip is displayed along with a confirmation that it matches the printed MRZ data.

Figure 19: Successful Test Card Reading

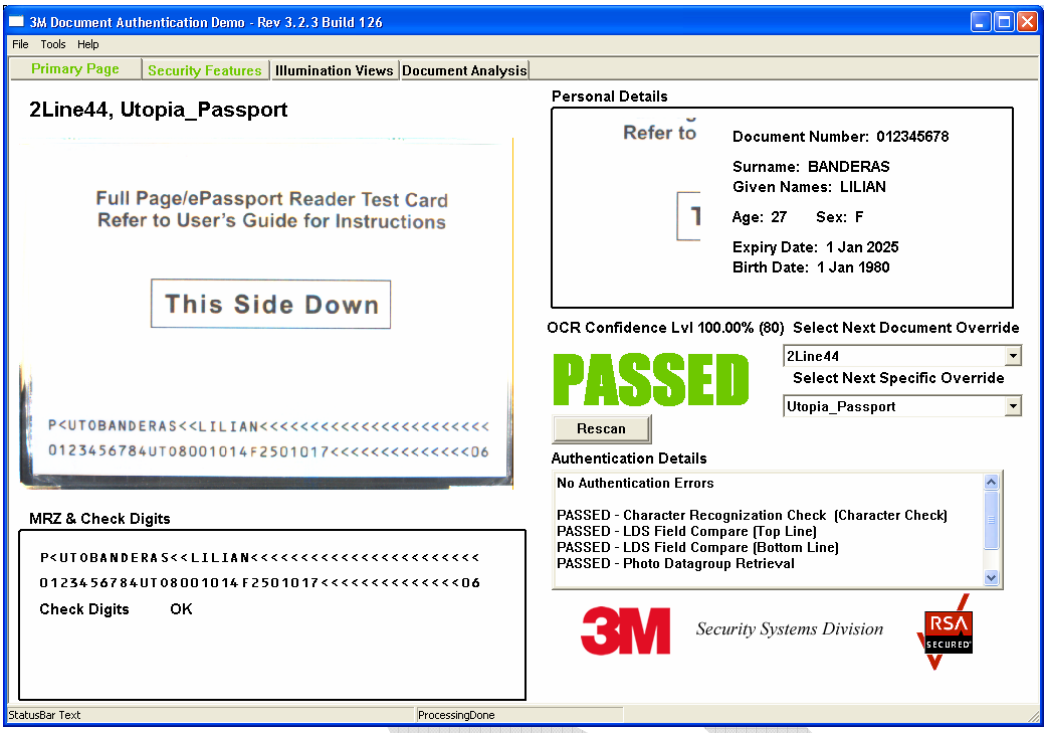
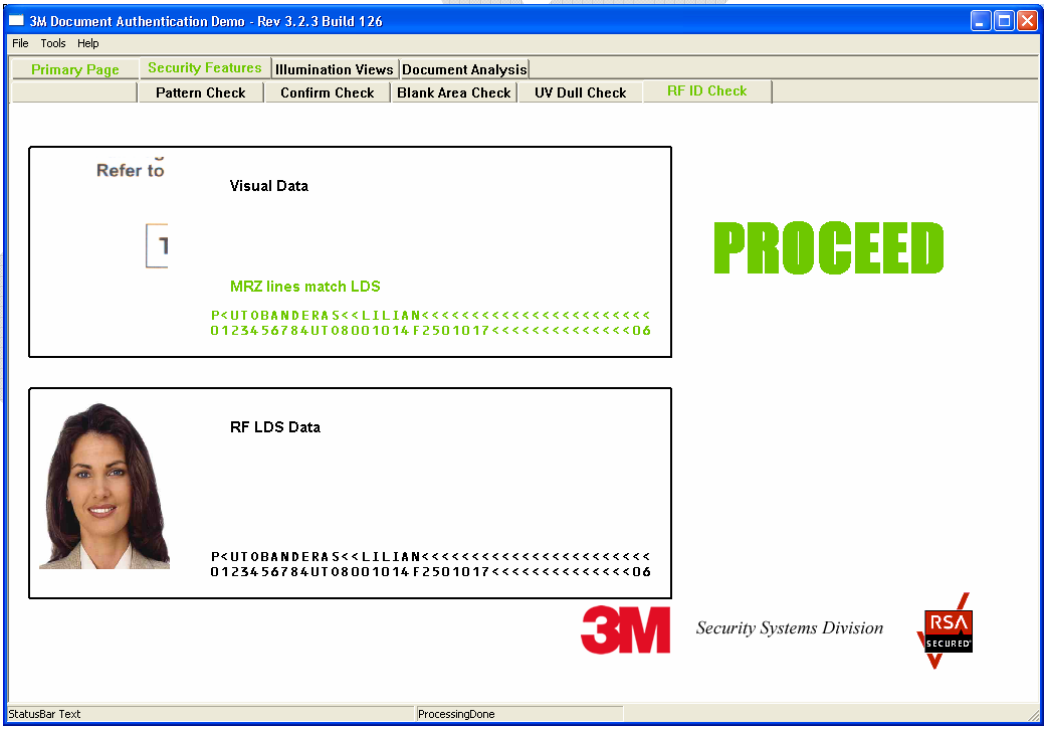


Figure 20: Successful RFID Chip Reading



Maintenance

The readers have no user-serviceable parts but the glass surface must be cleaned on a regular basis. For extensive repairs, return the reader to a 3M service depot.

See Return to Depot - Maintenance Procedure on page 27 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 (p/n G-00037), contact Global Technical Services (GTS).
See Appendix D: Customer Service on page 26 for more information.

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

   Note: Do not use abrasive cleaners or solvents. These may scratch the glass or damage the plastic.
   Do not used compresed air, as this may force debris into the reader.

2. Verify that there are no streaks or smudge spots remaining on the document window.
3. If required, clean the body of the reader with a lightly dampened cloth (water).

Appendix A: Specifications

Figure 21: Physical Dimensions

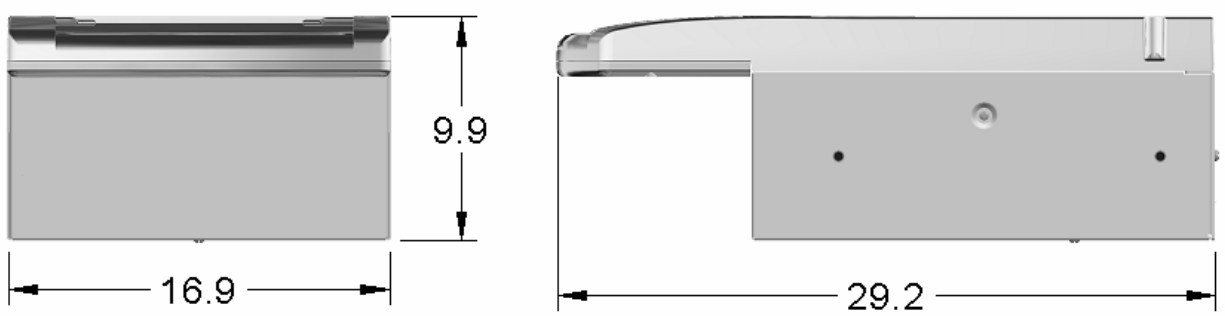


Table 2: Physical Specifications

Dimensions	Length 29.2 cm (11.5”) Width 16.9 cm (6.7”)Height 9.9 cm (3.9”)
Weight	1.1 kg (40 ounces)

Table 3: Electrical Specifications

Input voltage	12 V DC
Power consumption	3 watts (not including USB peripherals)
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 B (host), USB A x 2 (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: Regulatory Information

Device Safety	
USA	UL60950
EEA	EN60950
RoW	IEC60950
EMC – emissions	
USA	FCC Part 15, sub-part J, Class A
Canada	ICES-003
EEA	EN55022 Class A
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.

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).

Table 7: Troubleshooting Cases

Symptom	Possible Causes	Actions
The LEDs do not come on during power up.	There is no power to the reader.	• Verify the kiosk power source. • Verify that the power cable is connected to the power supply port located on the back panel. • Verify that the power cable pinouts are correct.
	The unit is damaged.	• Follow the procedure outlined in Appendix D: Customer Service on page 26.
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, page 16. • Verify that only one reader is connected to the host system. • Follow the procedure outlined in Chipset Updating on page 26.
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.
	High ambient light.	• Ensure kiosk orientation is such that bright light does not fall directly on the document window.
	The unit is not configured to read the document being scanned.	• The document may not conform to one of the known document templates contained within the software. • Contact Global Technical Services (GTS).
	The document is not orientated correctly on the scanning window.	• Ensure document is properly positioned as described in Testing Reading and Communication.

	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 and the host PC is ON.
	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 to install the software.	• Consult with your IT support representative.
LEDs do not change after reading an RF chip	Normal	• 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

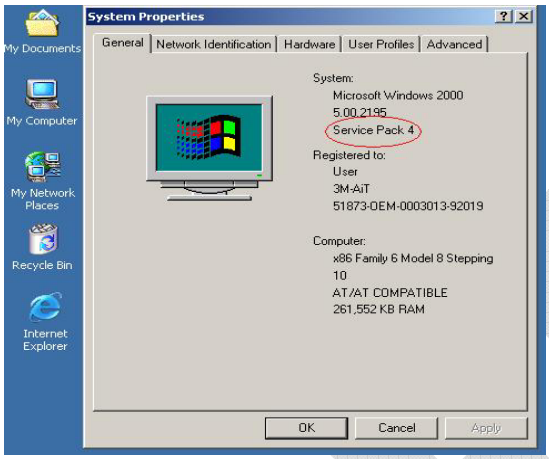
The reader is a **USB 2.0 device** that requires a Microsoft® Windows® 2000-SP4, Windows® XP or Windows® Vista operating system.

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

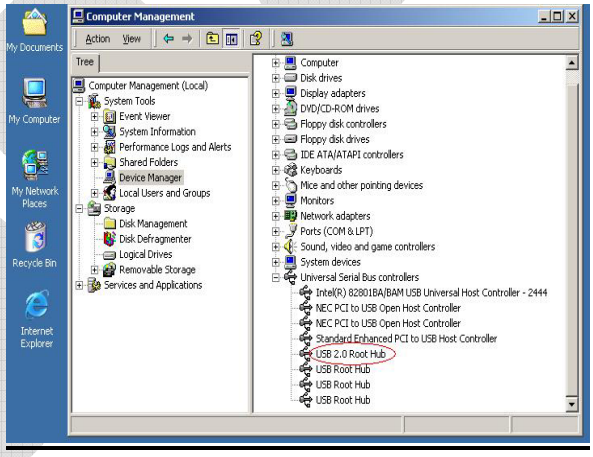
1. In Windows® 2000, right-click **My Computer** and select **Properties**.

Figure 22: 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 23: Windows® 2000 SP4 Computer Management window

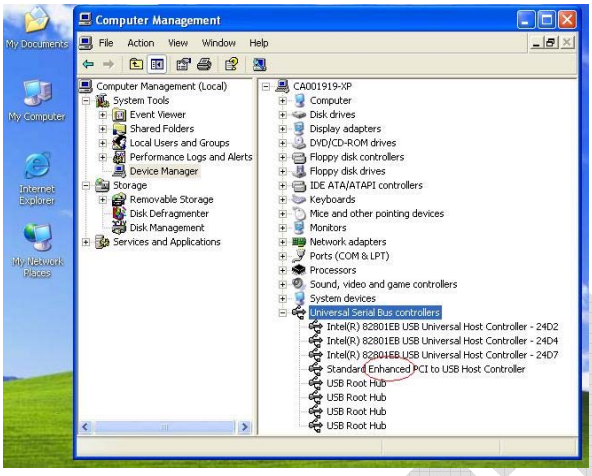


6. If your **Device Manager** displays **USB 2.0 Root Hub**, the system has high speed USB 2.0 capability.

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 24: Windows® XP Computer Management window



3. If your **Device** Manager displays **Enhanced USB Host Controller**, the system has high speed USB 2.0 capability.

Chipset Updating

The Check for High Speed USB 2.0 process determines if the PC has the correct hardware. Chipset updating ensures that the PC also has the correct driver software for that hardware.

The program **chipid.exe** is used to determine your chipset.
It is available in the install directory on your system following installation.

If the workstation uses the Intel USB chipset follow this link to locate the latest updates:
http://downloadfinder.intel.com/scripts-df-external/Support_Intel.aspx.

Appendix D: Customer Service

If a problem cannot be solved using Appendix B: Troubleshooting on page 23, 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.

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