

Technical Data Sheet

3M™ AT9000 Full Page Reader

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Product Use



The 3M™ AT9000 Full Page Reader inspects and images Machine Readable Travel Documents (MRTDs) in a variety of market segments.

Optional functions include:

- Support for biometrically enabled travel documents containing contact and contactless integrated circuit chips (eIDs, and ePassports)
- Optical document analysis in border management and transportation environments
- Quality assurance and chip encoding applications during the document issuance process
- Optional removable light shield to support oversized or very thick documents

Key Standard Features & Functionality

- Multiple document reading and imaging capability – imaging in 24-bit color
- 400 DPI high resolution imaging
- Multiple wavelength illumination – visible, IR, UV, 3M™ Confirm™ Security Laminate
- OCR data capture
- Complete access to OCR data and images captured via Software Development Kit (SDK)
- Enables images to be accessed as BMP, PNG or JPEG format
- Auto-triggering of document capture – presence of document is automatically detected
- Windows® 2000-SP4, Windows® XP, Windows Vista® or Windows® 7 compatible
- USB 2.0 high speed compatible
- Integrated USB 2.0 Hub – 2 ports for external peripherals (3 track magnetic strip reader, 2D barcode gun)
- No moving parts with an IP50 rating for dust ingress protection in the optical chamber
- Carbon (optional) glass coating to help reduce scanning surface scratching

Comprehensive Software Features

- Contact or Contactless IC reading and writing capability
- ISO 14443 Type A and Type B ICs
- Active and Passive authentication of ePassports
- Basic Access Control and Extended Access Control of ePassports
- Flexible software interface allows host application to select which illumination sources to use, image type, image compression, photo extraction etc.
- Full SDK including DLLs, OCXs and demonstration programs. Support for Visual C++®, Visual Basic®, C++ Builder®

Reading Capability	<p>The 3M™ AT9000 Full Page Reader reads the following:</p> <ul style="list-style-type: none"> • ICAO compliant documents in near infrared (IR) per ICAO 9303 specification Parts 1-4 • ISO 14443 Type A and B contactless ICs at 13.56 MHz (optional) • ISO 7816 Class A and AB smart cards (optional) • ISO 7810 and ISO 7811 AMMVA 3-Track Mag (optional) • 1D barcodes (2 of 5 interleaved, Code 128, and Code 39) • 2D barcodes (PDF 417, QR, DataMatrix™ and Aztec formats) from paper documents and some mobile devices
Illumination	<p>The reader illuminates documents in multiple wavelengths and lighting orientations:</p> <ul style="list-style-type: none"> • Near IR B900, 880nm, +/-5% • White visible, 430-700nm • Ultraviolet A (UVA): 365nm • 3M™ Confirm™ Security Laminate (optional) <ul style="list-style-type: none"> - 24 Bit Color - 8 Bit Monochrome IR
Resolution	<ul style="list-style-type: none"> • Sensor: 3.1 Megapixels, CMOS, RGB 24 bit color system • Standard 400 DPI image resolution
Contact Smart Card Option	<ul style="list-style-type: none"> • T=0, T=1 protocol support • Communication speed up to 344,105 bps (PPS, FI parameter) • Frequency up to 8 MHz (PPS, DI parameter) • Supports ISO 7816 Class A and AB smart card • 8 contacts – ISO location • Sliding contact
ePassport (RFID) Option	<p>Contactless IC reading and writing capability according to:</p> <ul style="list-style-type: none"> • ISO 14443 Type-A and Type-B • ICAO recommendations in ICAO Doc 9303 supplement, LDS 1.7 • PKI 1.1 • All standardized rates, up to 848 Kbps, read-out times depend on RFID tag, operating system and amount of data stored in the chip.
Enhanced Document Authentication Option	<p>Enhanced Document Authentication uses optical pattern matching to:</p> <ul style="list-style-type: none"> • Identify documents based on the type and country of origin • Match security features captured from a document against a database of trusted security features – including UV, 3M™ Confirm™ laminate and visible patterns • Check for presence of UV dull paper • Verify that areas are blank, devoid of patterns, text or printed matter

Quality Assurance Option	<ul style="list-style-type: none"> • Positional quality assurance (QA) – assures document is printed to applicable ISO, ICAO or customer standards • Measures skew, left margin, line spacing, character spacing, line length, print contrast, stroke width and distance from each character to the bottom of the document
Firmware Upgrade	<ul style="list-style-type: none"> • Upgradeable firmware via USB 2.0 interface • Configurable via USB 2.0 interface • Non-volatile configuration • Configuration can be saved to a file for backup or maintenance
Regulatory	<ul style="list-style-type: none"> • FCC Part 15 Class A • UL, UL-C • CE, CB • WEEE/RoHS¹
Operating Environment	<ul style="list-style-type: none"> • Humidity: 20 to 95% (R.H. non-condensing) • Temperature: -10° to 50° C operating; -20° to 50° C storage
Security	<ul style="list-style-type: none"> • Keystone lock • Recessed power switch on rear panel
Minimum PC Specification	<p>Software must be installed on a customer-supplied PC. The following minimum configuration is recommended:</p> <ul style="list-style-type: none"> • 1.7 GHz Pentium® 4 • 512 Mb DRAM • USB 2.0 • 100 Mb of Hard Drive space for software • Windows® 2000-SP4, Windows® XP, Windows Vista® or Windows® 7 operating systems, 32 and 64 bit
Standard Dimensions	<ul style="list-style-type: none"> • Length: 19.0 cm (7.5") • Width: 16.2 cm (6.4") • Height: 15.7 cm (6.2") (with light shield) • Weight: < 1 kg or 2.2 lbs

¹ RoHS compliant means that the product or part does not contain any of the following substances in excess of the maximum concentration values in any homogeneous material, unless the substance is in an application that is exempt under RoHS, as amended: (a) 0.1% (by weight) for lead, mercury, hexavalent chromium, polybrominated biphenyls or polybrominated diphenyl ethers; or (b) 0.01% (by weight) for cadmium. This information represents 3M's knowledge and belief, which may be based on information provided by third party suppliers to 3M

Smart Card Option Dimensions	<ul style="list-style-type: none"> • Length: 22.0 cm (8.7") • Width: 16.2 cm (6.4") (with clearance for cabling) • Height: 18.0 cm (6.2") • Weight: < 1.1 Kg or 2.2 lbs (excluding optional attachments)
Status Indicators	<p>The readers provide user feedback via the following status indicators:</p> <ul style="list-style-type: none"> • Red - Read Error LED • Blue - Ready LED • Yellow - Busy LED • Green - Valid Read LED <p>The readers perform a power-up self-test and indicate failure using status LEDs.</p>
Power	<p>Universal input external power supply:</p> <ul style="list-style-type: none"> • Input voltage 100 - 240 VAC plus/minus 10% • Frequency 47 - 63 Hz • Detachable IEC320 AC mains power cable • Power consumption is less than 12 Watts at 12-volts DC • Locking 4 pin connector
Service & Maintenance	<ul style="list-style-type: none"> • One-year warranty • 24-hour service request via toll-free number • Annual maintenance agreement available
Contact 3M	<ul style="list-style-type: none"> • www.3M.com/security/IA <p>3M Security Systems Division 3M Center, Building 225-4N-14 St. Paul, MN 55144-1000 1-800-581-2631</p>

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