Technical Data Sheet

3M Security Systems Division

3M™ AT9000 Full Page Reader

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 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
Key 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™ laminate • OCR data capture • Complete access to OCR data and images captured via Software Development Kit (SDK) • Enables images to be accessed as BMP or JPEG format • Auto-triggering of document capture – presence of document is automatically detected • Windows® 2000-SP4, XP or Vista® 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 • Diamond Like Carbon (optional) glass coating to improve scanning surface durability
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®, Delphi®

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Reading Capability	The 3M™ AT9000 Full Page Reader reads the following: • 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) • 1D barcodes (2 of 5 interleaved, Code 128, Code 39, EAN 8 and EAN13) • 2D barcodes (PDF 417, QR, DataMatrix and Aztec formats) from paper documents and most mobile devices

Illumination	The reader illuminates documents in multiple wavelengths and lighting orientations:
	• Near IR B900, 880nm, +/-5%
	• White visible, 430-700nm +/-5%
	• Ultraviolet A (UVA): 365nm +/-2%
	• 3M™ Confirm™ laminate (optional)
	  • 24 Bit Color
	  • 8 Bit Monochrome IR

Resolution	• Sensor: 3.1 Megapixels, CMOS, RGB 24 bit color system • Standard 400 DPI image resolution
Contact Smart Card Option	• 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	Contactless IC reading and writing capability according to: • 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.

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Enhanced Document Authentication Option	Enhanced Document Authentication uses optical pattern matching to: • 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	• 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	• 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
Compliance	• FCC Part 15 Class A • UL, UL-C • CE, CB • WEEE/RoHS[1]
Operating Environment	• Humidity: 20 to 80% (R.H. non-condensing) • Temperature: 0º to 40º C operating; -20º to 50º C storage
Security	• Keystone lock • Recessed power switch on rear panel
Minimum PC Specifications	Software must be installed on a customer-supplied PC. The following *minimum* configuration is recommended to maintain the processing speed indicated above: • 1.7 GHz Pentium 4 • 512 Mb DRAM • USB 2.0 • 100 Mb of Hard Drive space for software • Windows® 2000-SP4, XP or Vista®

[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

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Standard Dimensions	• 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
Smart Card Option Dimensions	• 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	The readers provide user feedback via the following status indicators: • Red - Read Error LED • Blue - Ready LED • Yellow - Busy LED • Green - Valid Read LED The readers perform a power-up self-test and indicate failure using status LEDs.
Power	Universal input external power supply: • 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	• One-year warranty • 24-hour service request via toll-free number • Annual maintenance agreement available
Contact 3M	• www.3M.com/security/IA 3M Security Systems Division 3M Center, Building 225-4N-14 St. Paul, MN 55144-1000 1-800-581-2631

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