Regional Seminar on MRTDs, Biometrics and Identification Management
12 to 14 November 2013, Ouagadougou, Burkina Faso

ICAO MRTD & eMRTD Specifications: High Level Overview

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ICAO Implementation & Capacity Building Working Group (ICBWG)

Agenda

1. Background
2. Current Structure of 9303
   a) Part 1: MR Passports
   b) Part 2: MR Visas
   c) Part 3: MR Official Travel Documents (Cards)
3. Supplements & Revision
4. Closing remarks

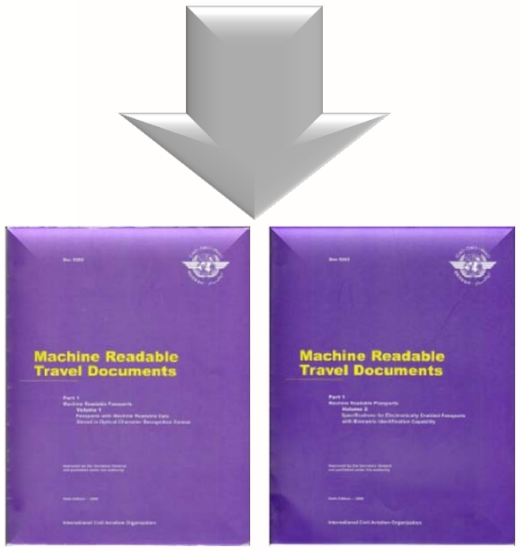
Doc 9303 – MRTDs specifications

- First edition 1980
- Developed and maintain by the TAG/MRTD and Working Groups
- ISO References

Doc 9303 Structure: 3 parts - but 5 volumes

Part 1: Machine Readable Passports

(6th edition, 2006)

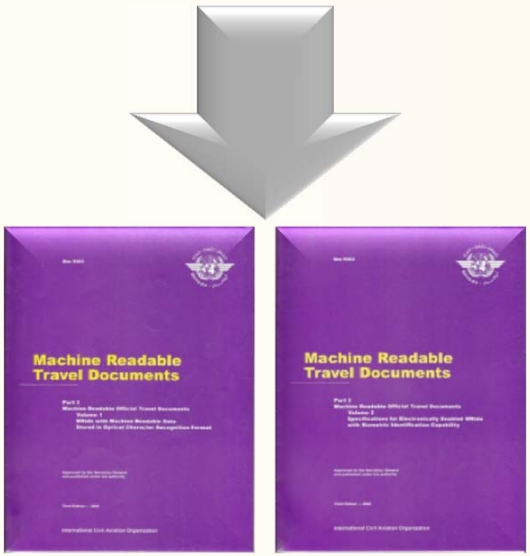


Part 2: Machine Readable Visas

(3rd edition, 2005)

Part 3: Machine Readable Official Travel Documents

(3rd edition, 2008)



SUPPLEMENTS (NEW!!!! - Supplement 13)

TECHNICAL REPORTS

Doc 9303 Part 1:
Machine Readable Passport (2 Volumes)

Doc 9303 – Part 1, Volume 1

- Four sections
  - Section 1 - Introduction
  - Section 2 – Reference & Definitions
  - Section 3 – Passport Security Provisions
  - Section 4 – Machine Readable Passport

Section 1 & 2: Introduction & References

- **Section 1**
  - Introduction, background and benefits
  - Relationship between ICAO and ISO

- **Section 2**
  - ISO standards and references
  - Definitions

Acronym	Definition
eMRP	ePassport
MROTD	Machine Readable Official Travel Document
MRP	Machine Readable Passport
MRV	Machine Readable Visa
MRZ	Machine Readable Zone
OCR-B	Optical Character Recognition font – Type B
PKD	Public Key Directory
PKI	Public Key Infrastructure
VIZ	Visual Inspection Zone

Section 3: Passport Security provisions

Security standards for MRTDs – Informative Appendix 1 to Section III

Typology of document fraud

1. Counterfeit
2. Forgery a.k.a. fraudulent alteration
    1. Photo-substitution
    2. Alteration of text in VIZ or MRZ
    3. Removal or substitution of visa pages, or deletion of entries on visa pages
    4. Using stolen genuine passport blanks
3. Impostors (assumed identity, altered appearance)

Section 3: Passport Security Provisions

Informative Appendix 3 to Section III -- Prevention of fraud associated with the issuance process

- Outlines main patterns of fraud
- Recommended measures against fraud
- Procedures to combat fraudulent applications
- Physical security at issuing facilities

Section 3: Provision for Passport Security Provisions

Recommended security norms covering:

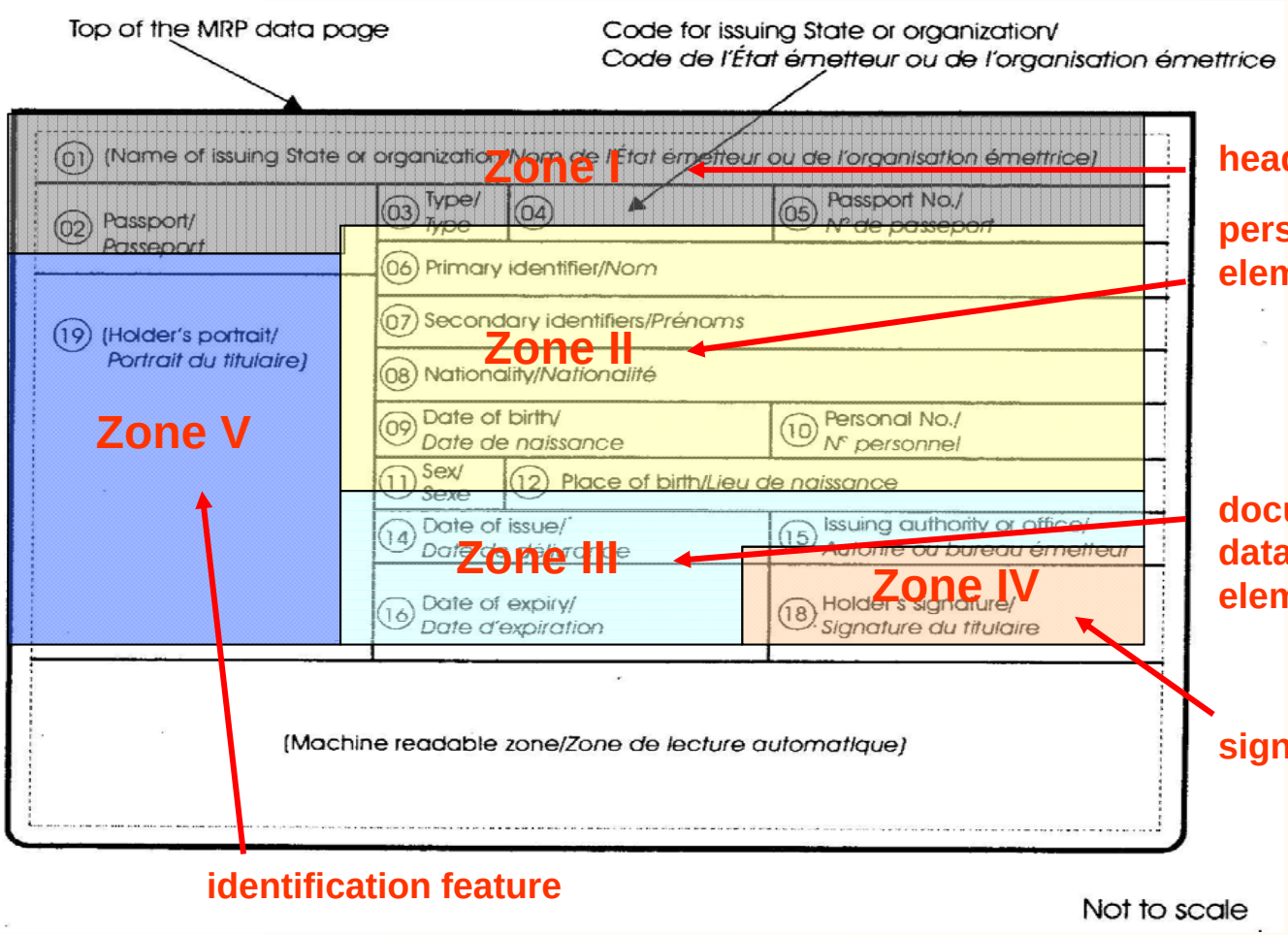
- Substrate materials
- Security printing
- Protection against copying
- Personalization techniques
- Additional security measures
- Security control of production and product

Each chapter includes:

- Basic features (considered to be essential)
- Recommended features (States encouraged to adopt some, on the basis of their risk analysis)

Section 4: Machine Readable Passports

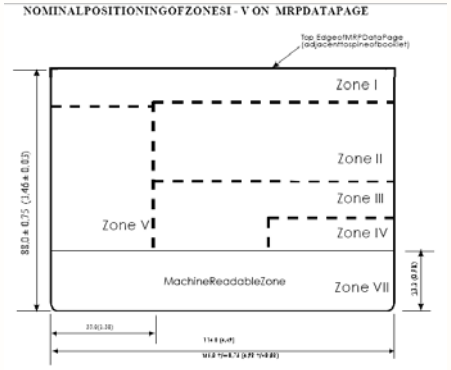
Visual inspection zone (VIZ): Zone 1-6



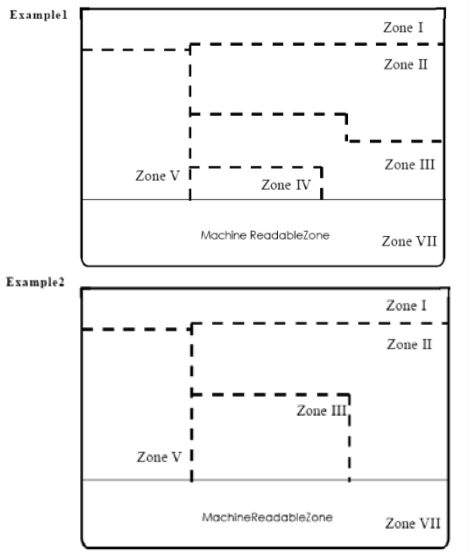
Visual inspection zone (VIZ): Zone 1-6

Flexibility within the VIZ

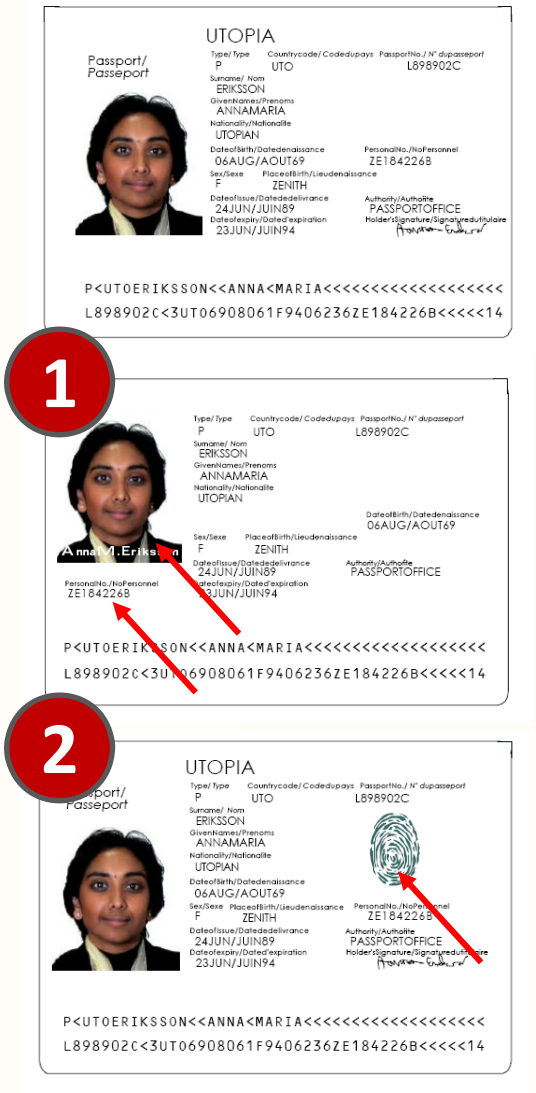
Nominal VIZ



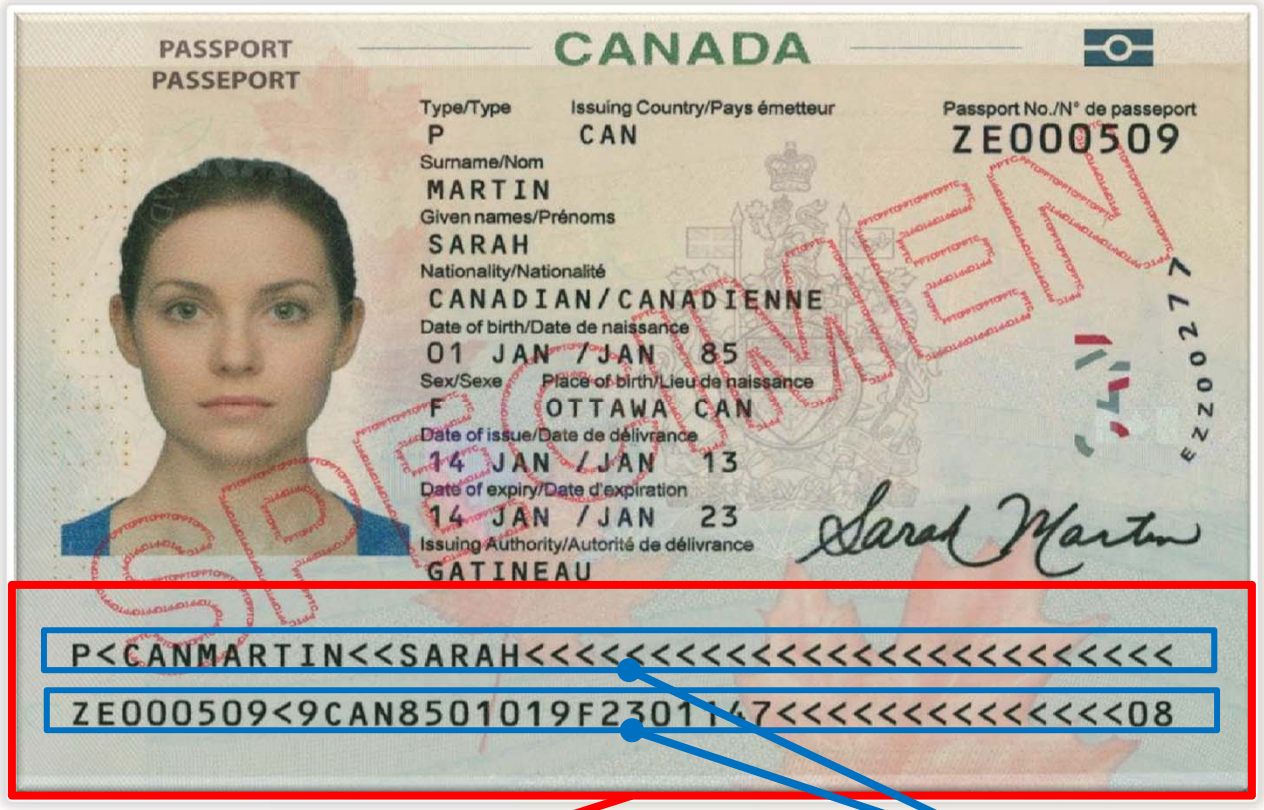
Alternate VIZ



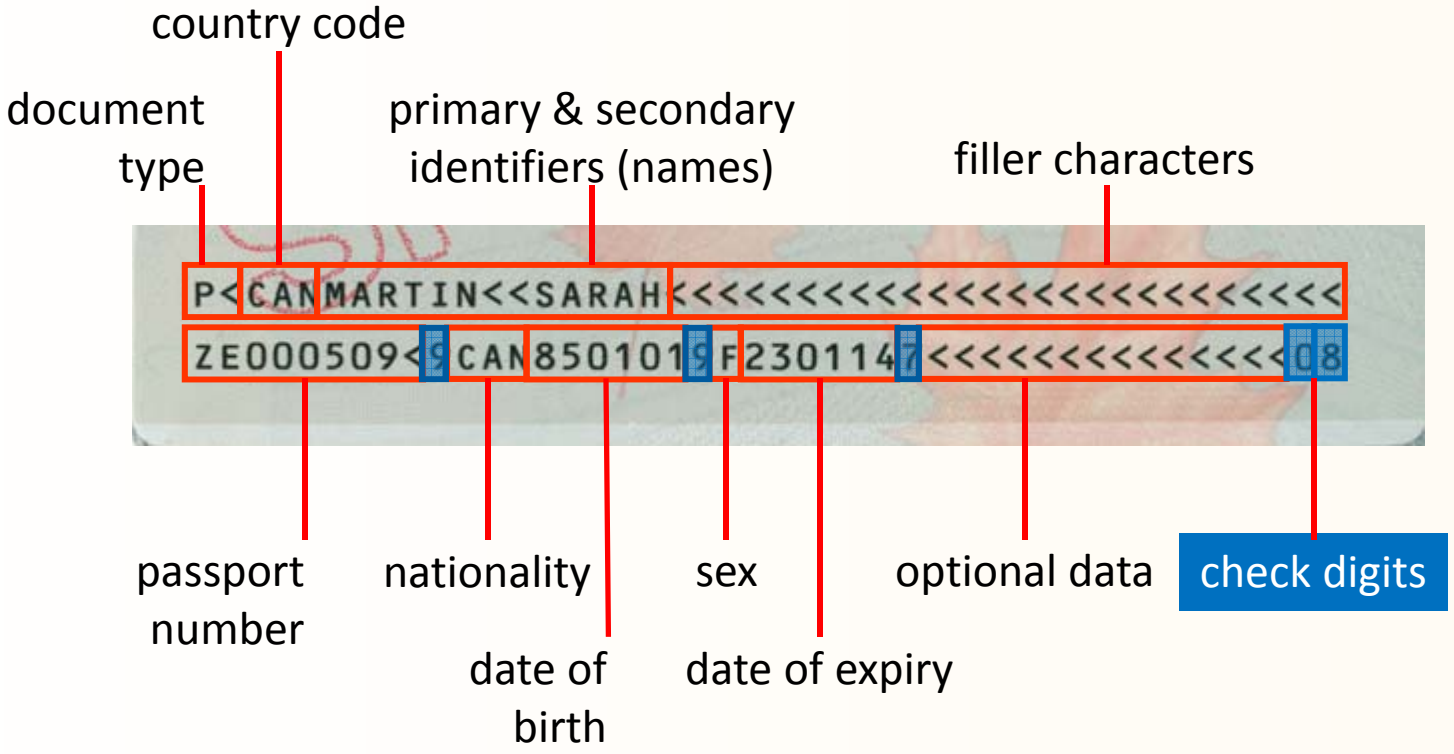
Nominal



Zone VII – MRZ Position



Zone VII - MRZ: Formatting



MRZ: Font

- Specialized font called OCR-B from ISO 1366-1 standard
- Alphas, numbers and '<' are only permitted characters
- Visible in the infrared

Visible

Infrared

Acceptable Font Set

0123456789
ABCDEFGHI
JKLMNOPQR
STUVWXYZ <

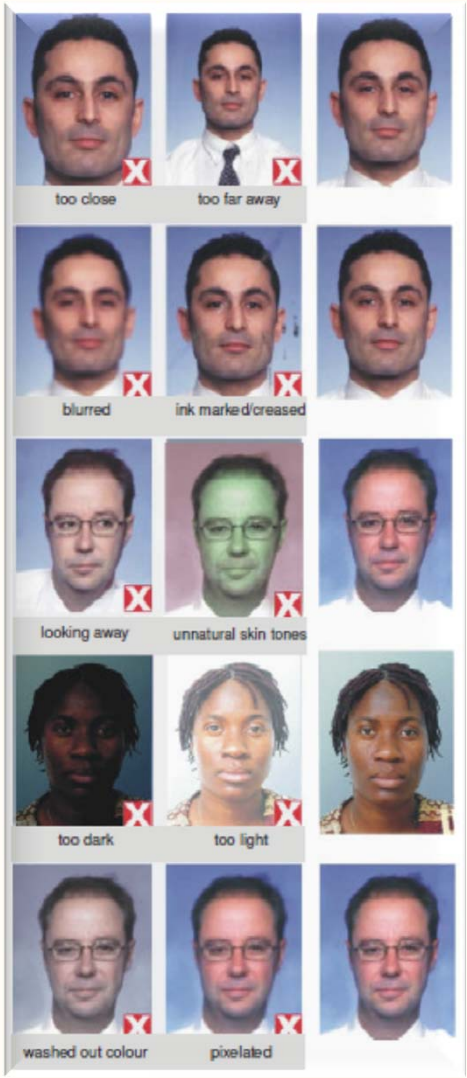
Other Appendixes

- Three-letter codes (ISO 3166-1)
- Recommended transliterations for MRZ
- Guidelines for photos in MRPs

Sample of Transliteration

National character	*Recommended transliteration*
Ј	J
Ќ	K (except Macedonian = KJ)
Љ	LJ
Њ	NJ
Ћ	C
Џ	DZ (except Macedonian = DJ)
Є	IE

Sample of Photo Guide

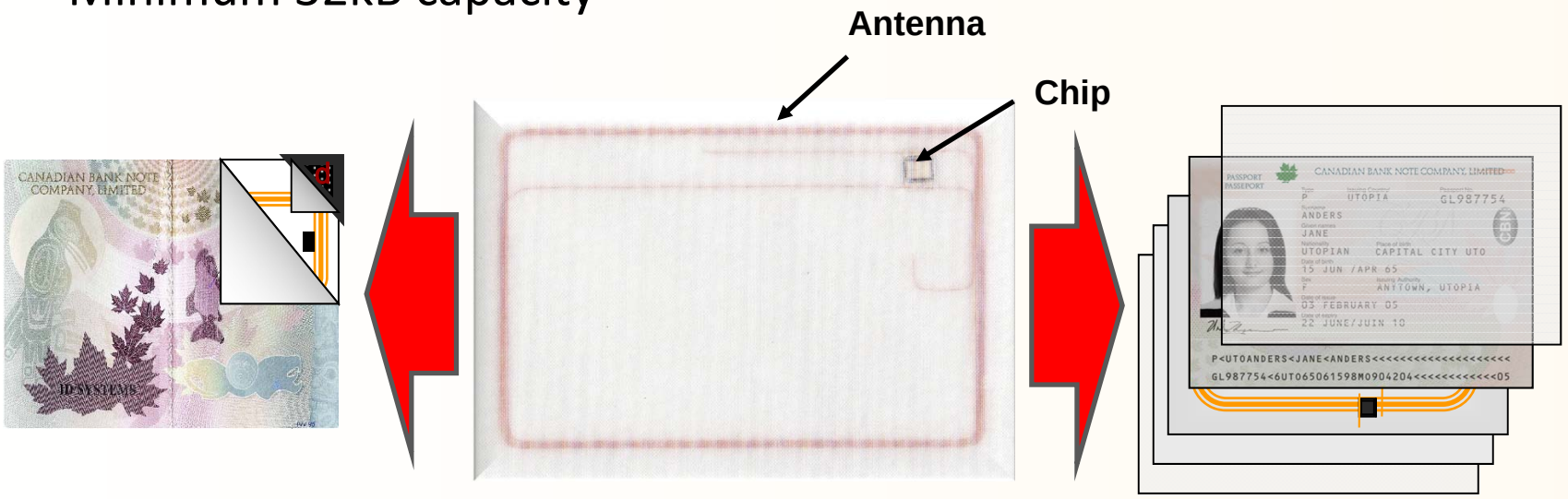


Doc 9303 Part 1 Vol.2 - ePassports

- ePassport is at the discretion of the issuing state
- Biometric identification:
  - Facial recognition (mandatory)
  - Fingerprint (optional)
  - Iris scan (optional)
- Data to include: facial image, MRZ data plus any relevant info at the discretion of the State
- Recommended warnings and markings

Anatomy of eMRP:

- Microchip and antenna (or 'inlay') may be placed in the cover, polycarbonate data page, or interior page
- ISO14443 Type A & B microchip
- Minimum 32kB capacity



Cover

Data page/Interior page

eMRP Public Key/Private Key Infrastructure (PKI)

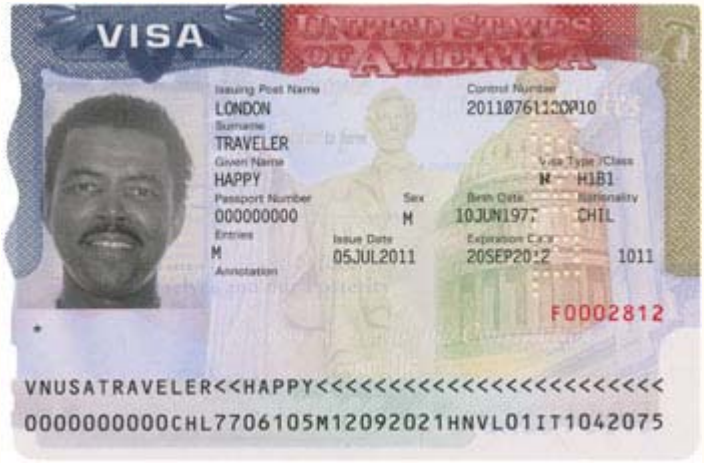
- Data in a chip can be scanned and read -------
- Unless – additional security measures are introduced (BAC, AA, EAC)
- PKI issues “certificates” digitally signed by trusted issuing organisations
- PKI is implemented through the Public Key Directory (PKD) developed and provided by ICAO
- PKD:
  - Accepts info on public keys from States
  - Stores them
  - Makes them accessible to other States
- Important: PKD must be an integral part of every eMRP

Doc 9303 Part 2:
Machine Readable Visa

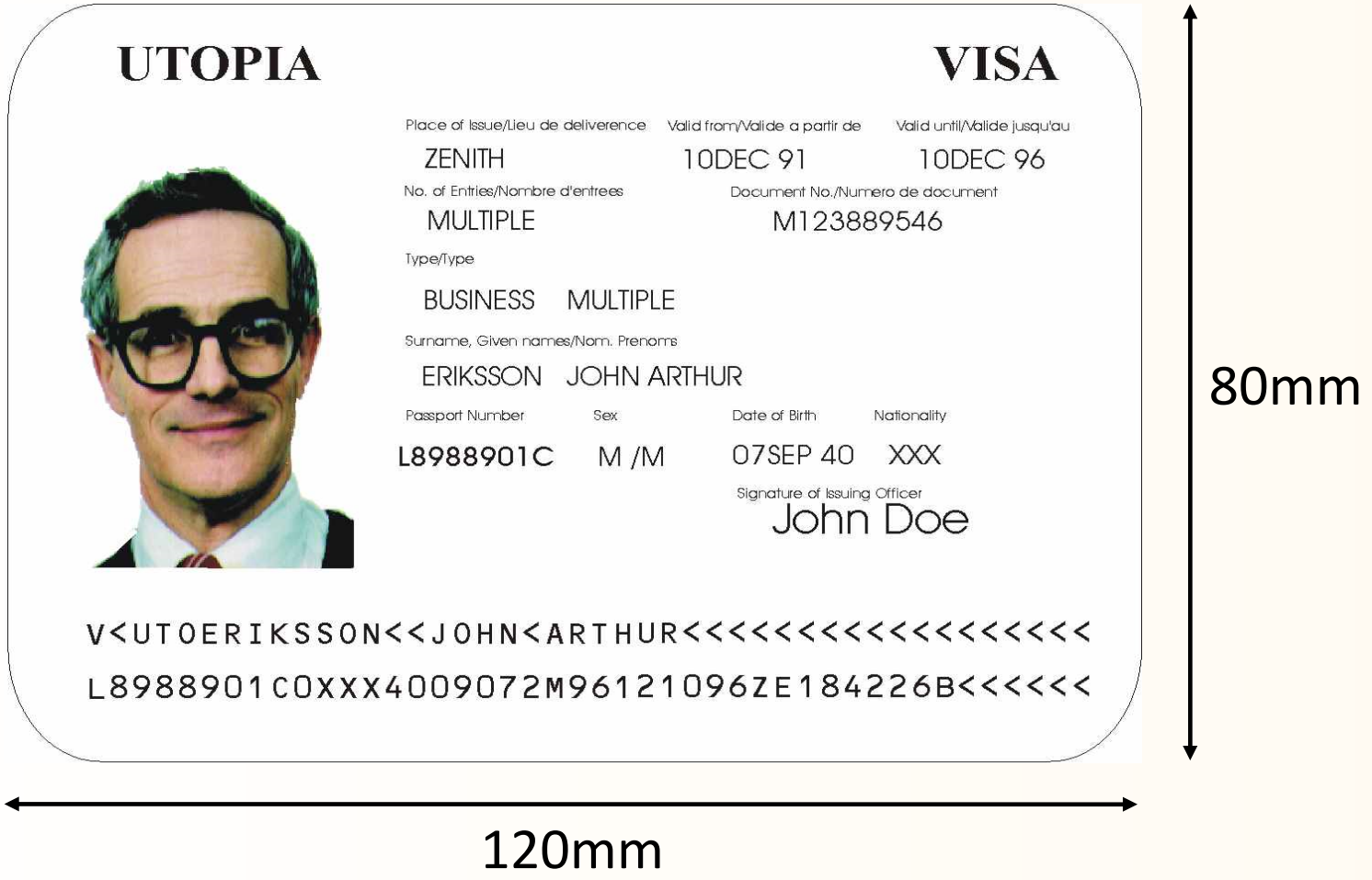
Two MRV formats

- Format A Visa (MRV-A) fits in ID-3 travel document
  - Most common format, standard within the EU

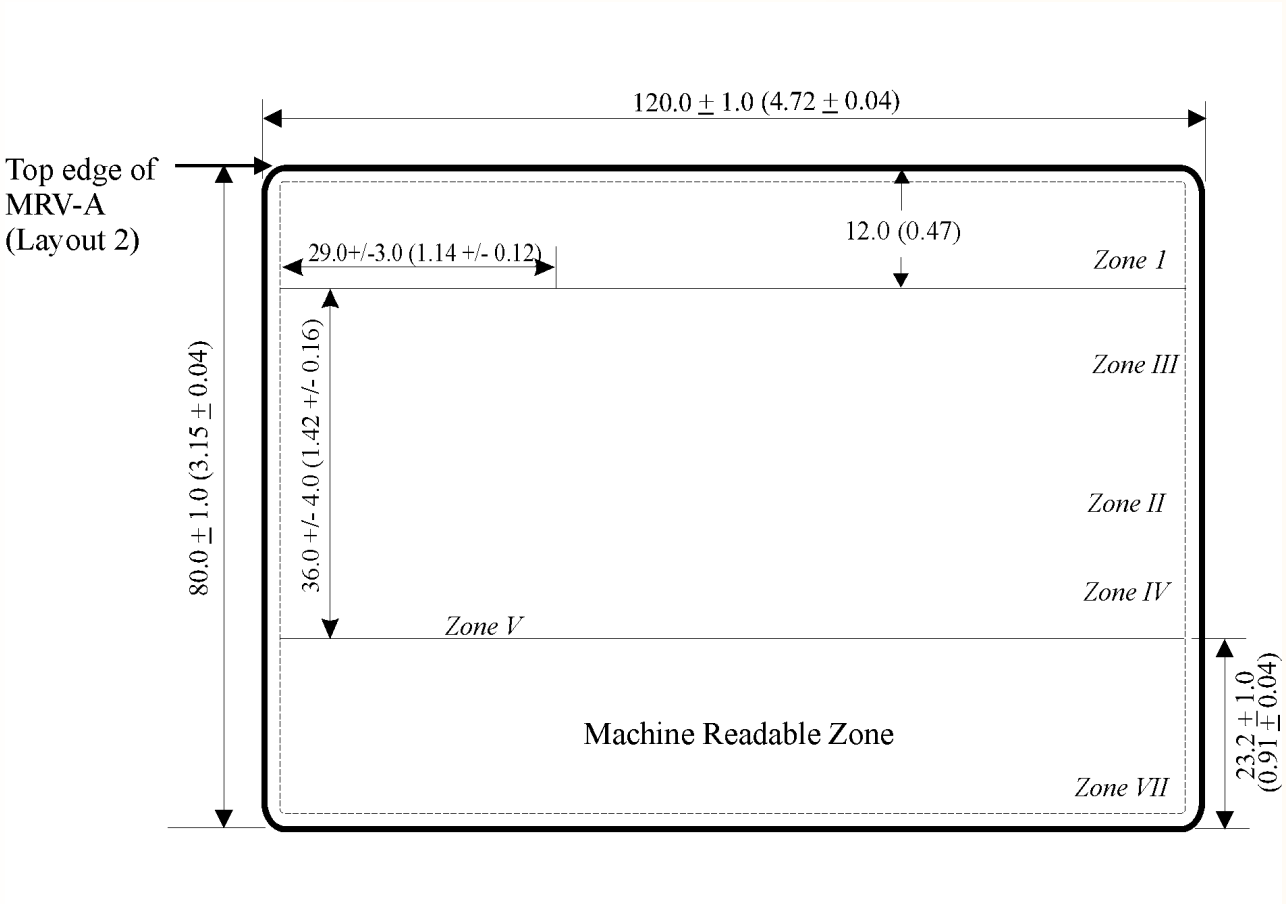
- Format B Visa (MRV-B) is an ID-2 size



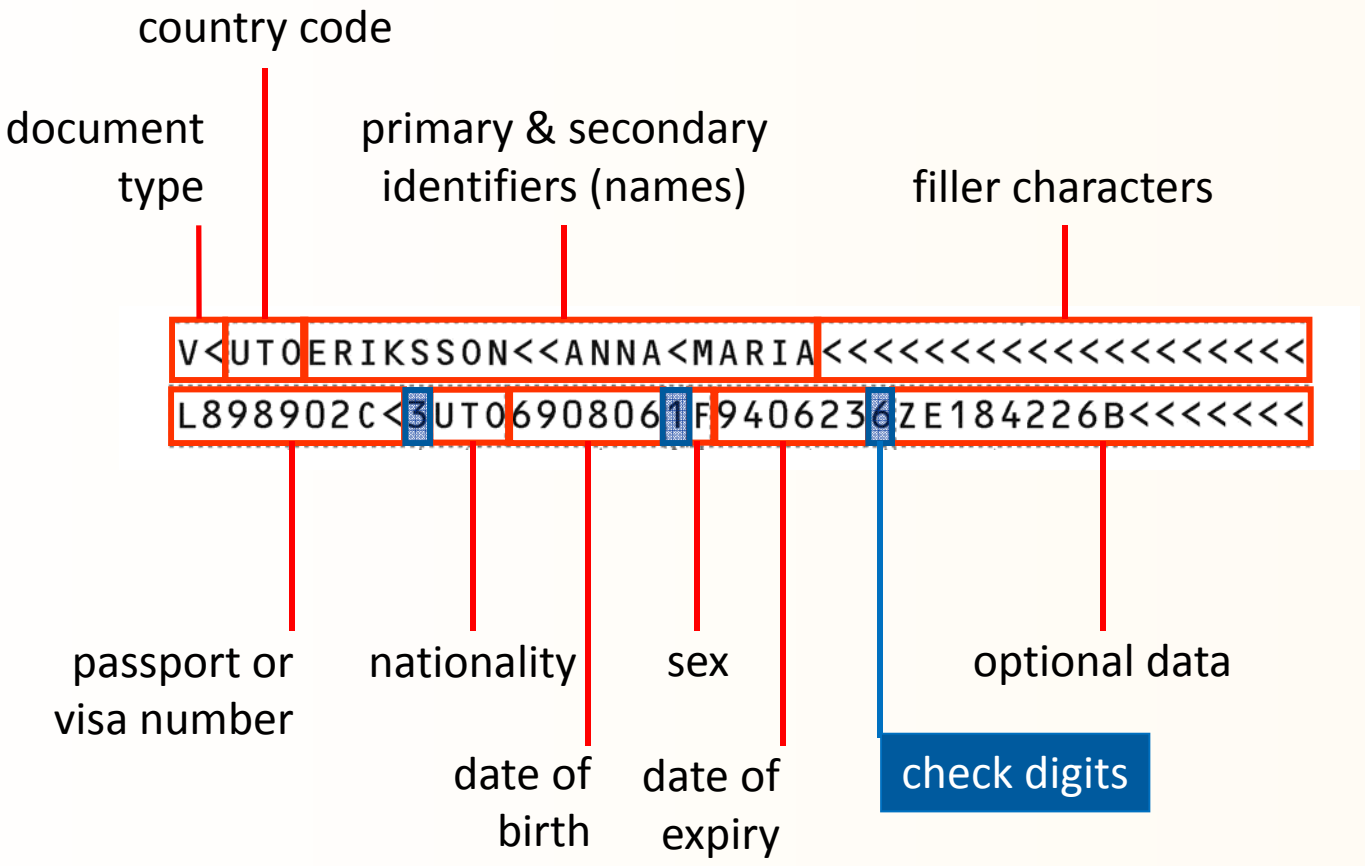
Example: MRV-A



MRV-A: Zone Boundaries

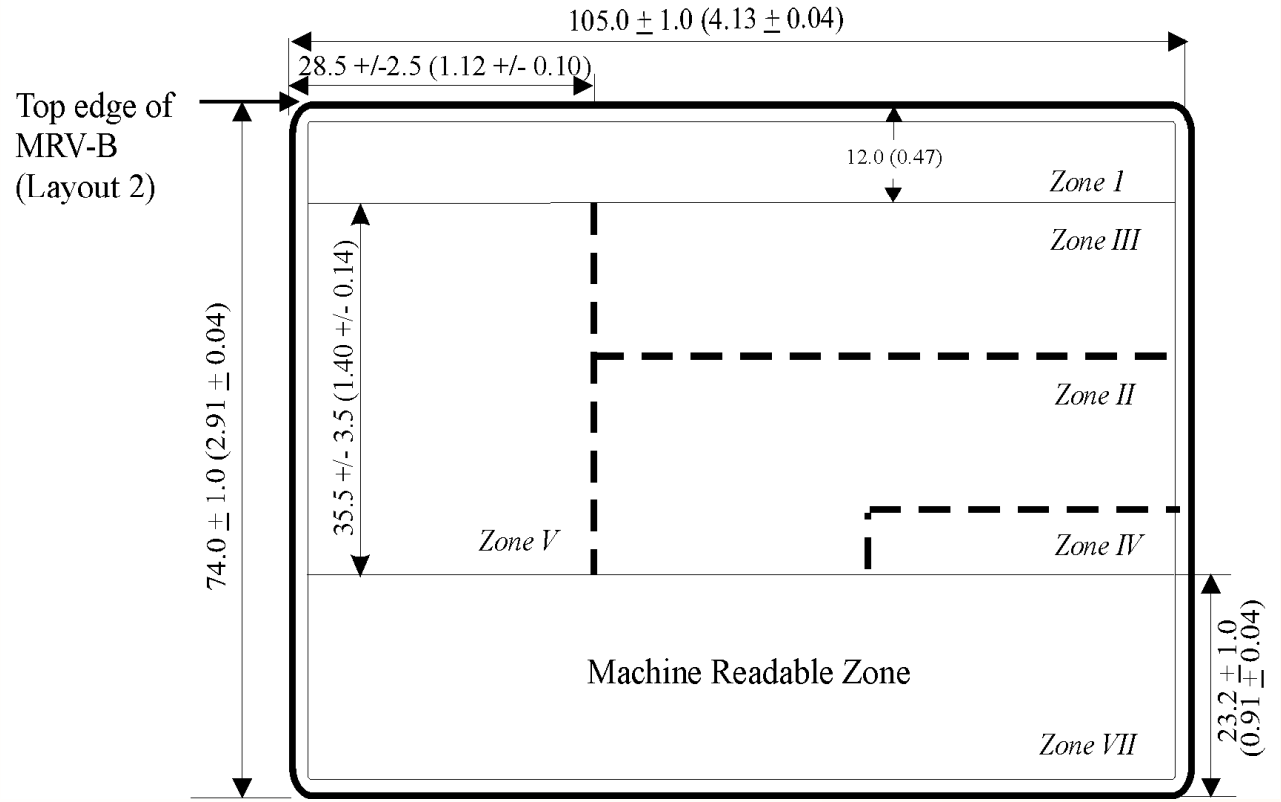


MRV-A: MRZ Formatting

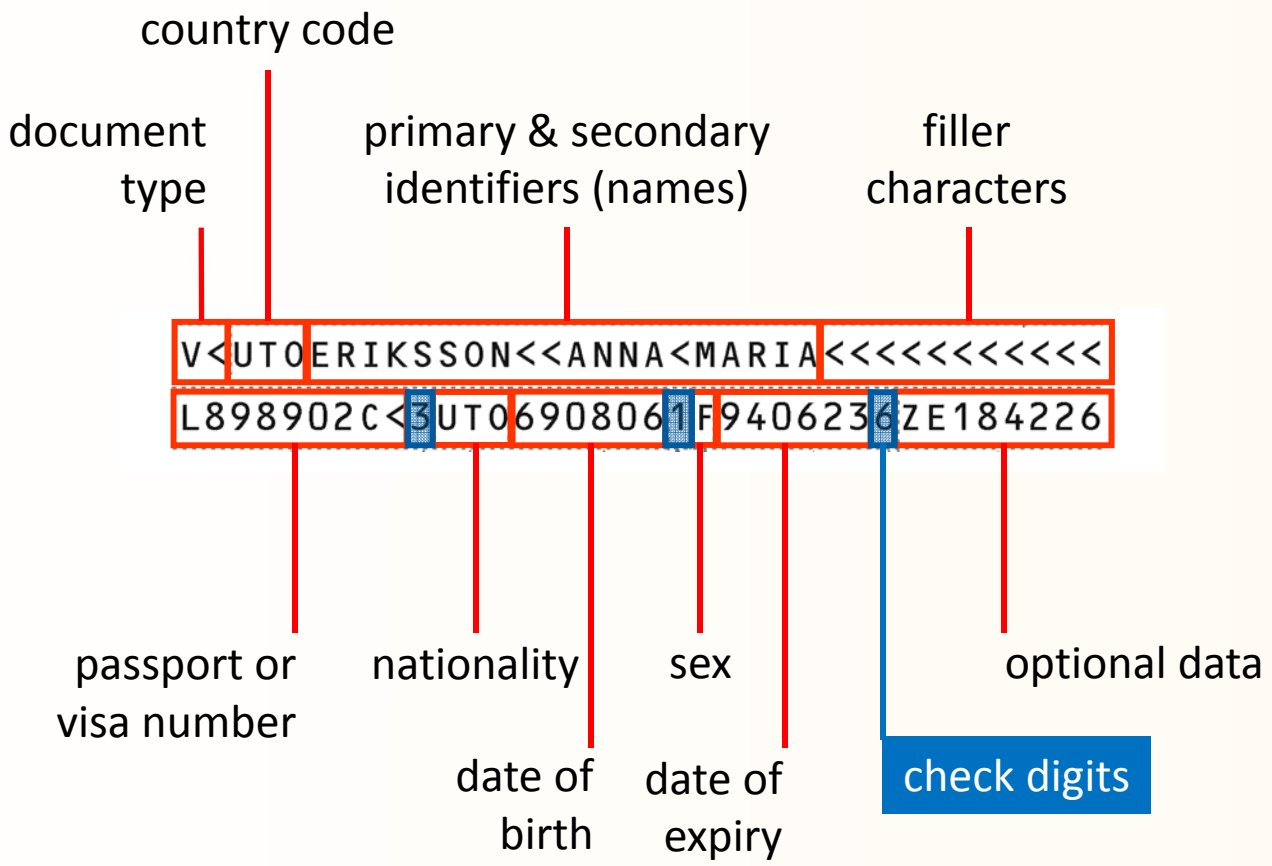


Example: MRV-B

MRV-B: Zone Boundaries



MRV-B: Formatting



Doc Part 3:

Machine Readable Official Travel Documents (ID Cards) (2 Volumes)

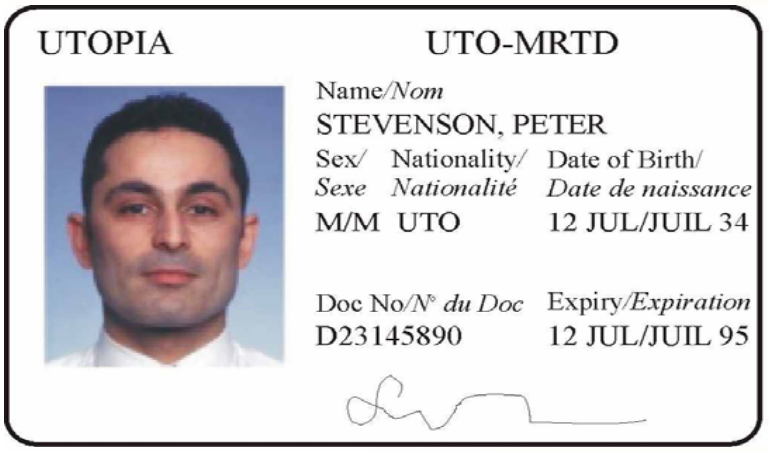
Part 3: MROTD (ID cards)

- Two formats:
  - TD1 (ID1-sized card)
  - TD2 (ID2-sized card)

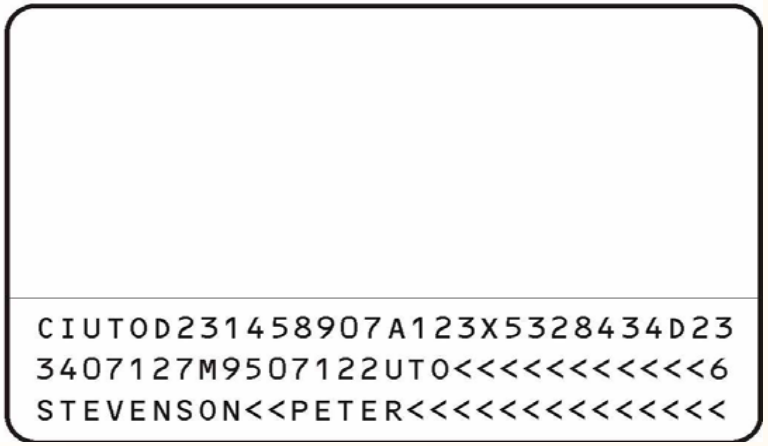
Part 3: ID1-size card

53.98mm

Front

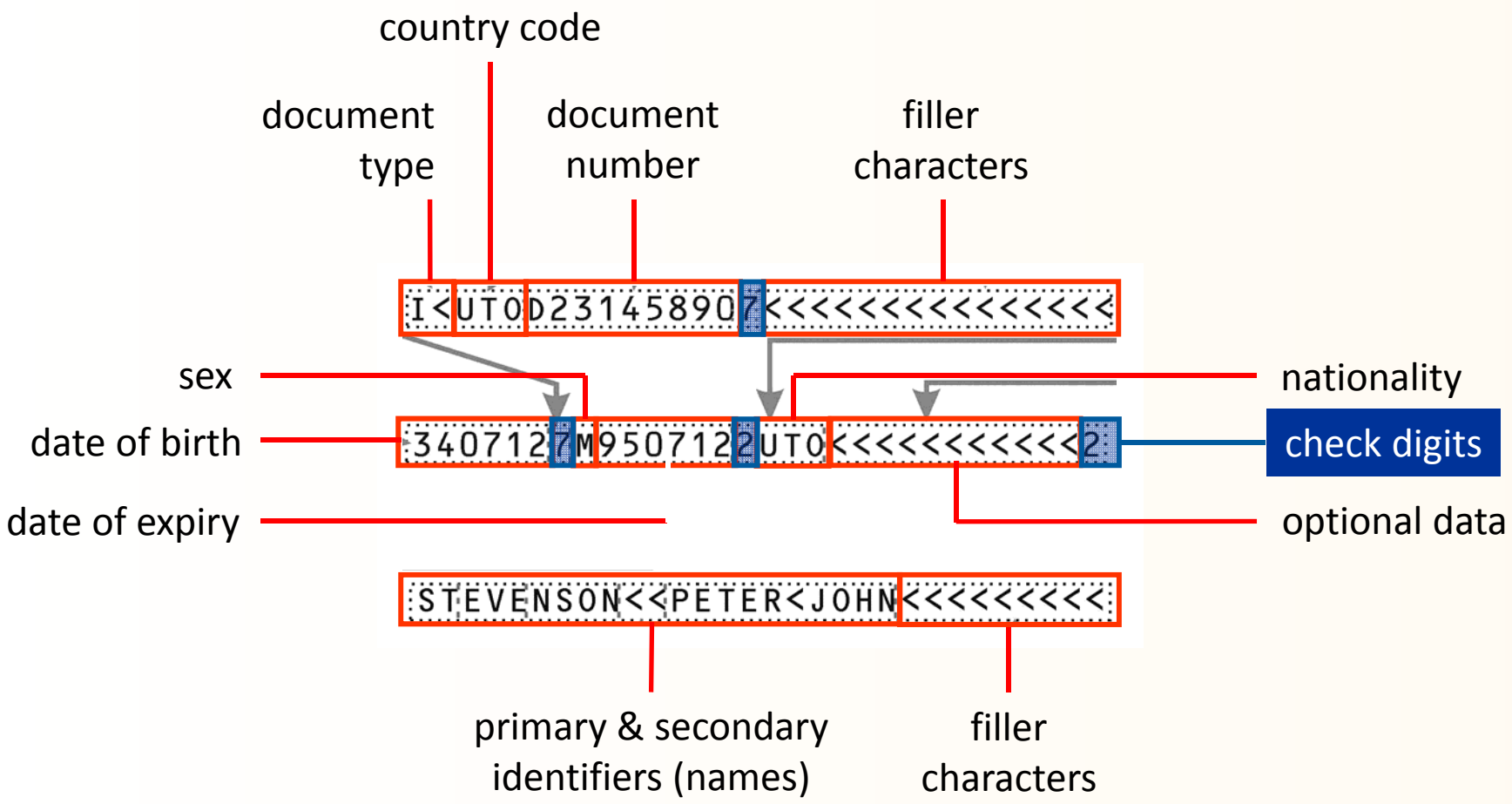


Rear



85.60mm

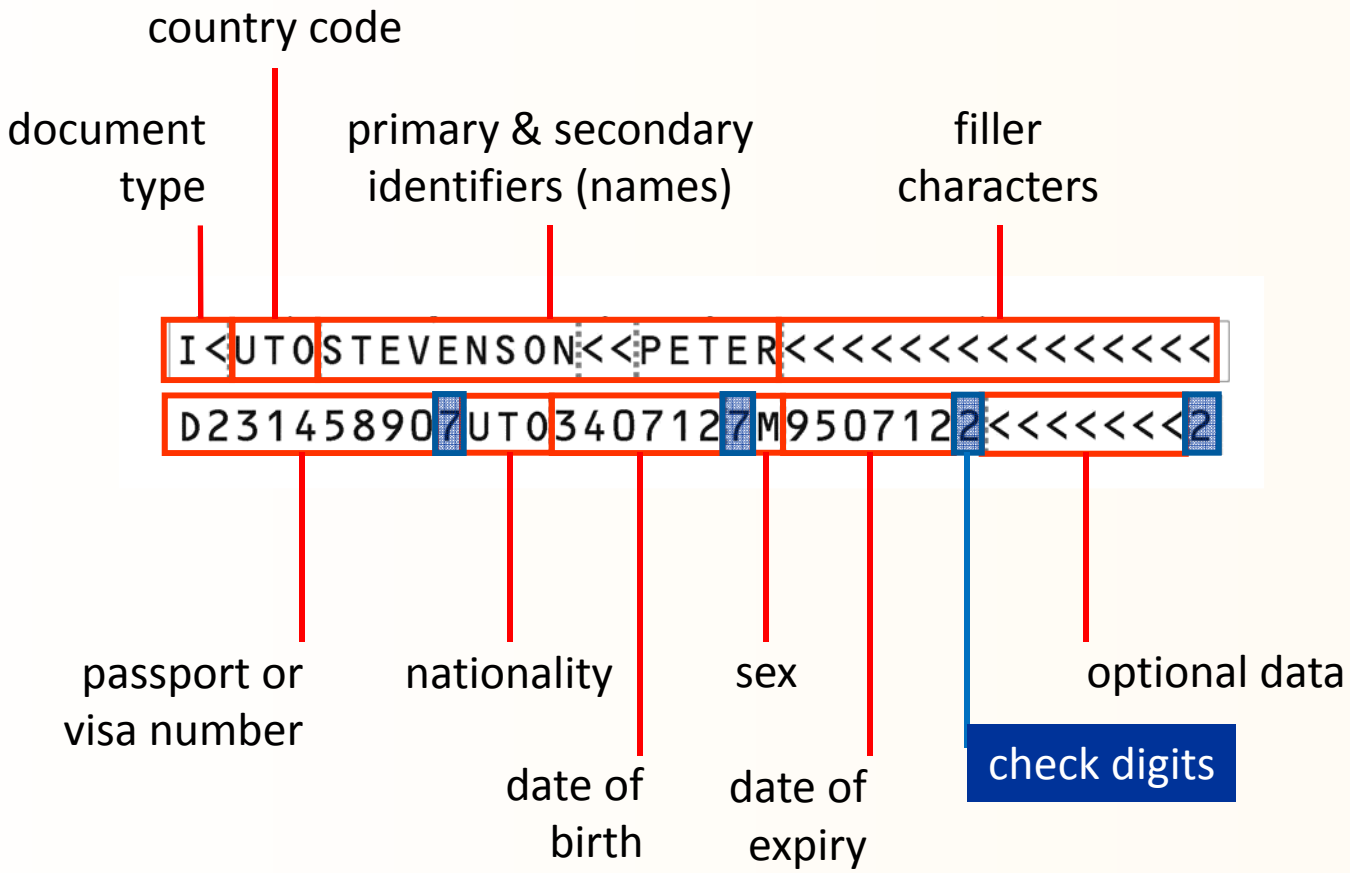
Part 3: TD-1 Formatting



Part 3: TD-2


UTOPIA
OFFICIAL TRAVEL DOCUMENT
Document Officiel de Voyage
Surname/Nom
STEVENSON
Given names/Prenoms
PETER
Nationality/Nationalite
UTO
Date of Birth/
Date de naissance
12JUL/JUIL34
Sex/Sexe
M/M
ocument No./
umero de document
D23145890
Valid until/
Valide jusqu'au
12 JUL/JUIL 95
Signature
I<UTOSTEVENSON<<PETER<<<<<<<<<<<<<<
D23145907UT03407127M9507122<<<<<<<2
74mm
105mm

Part 3: TD-2 Formatting



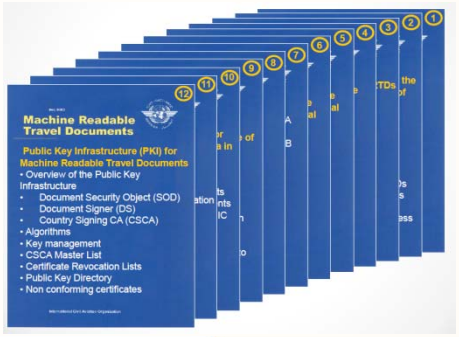
Part 3, Volume 2

- Expanded machine-readable data storage – a biometric component (similar to MRPs)
- Contactless integrated circuit (a chip)
- Biometric data – as in MRPs:
  - Obligatory: Face
  - Optional: Fingerprint and/or Iris
- Has to comply with Doc 9303 Part 3 Vol. 1

Future of Doc 9303

- Being reviewed by ICAO MRTD NTWG – in close cooperation with ISO
- Focus on avoiding duplication, making it more user-friendly and incorporating Technical Reports
- New version expected in Q2/2014
- For details about the changes see

http://www.icao.int/Meetings/mrtd-symposium-2013/Documents/Presentations/22_pm_Kinneging.pdf



More Information

- Current version of Doc 9303
- Also --- Supplements to Doc 9303
- MRTD Report – Professional Magazine)
- All at MRTD Program website:

  http://www.icao.int/Security/mrtd/Pages/default.aspx

Thank you / Merci

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