Case No. 1:15-cv-02362-RBJ Document 64-17 filed 09/11/17 USDC Colorado pg 1 of 34

a) the advantage of reducing the time involved in the visual inspection of conventional passports at clearance control points; and

b) the prospect that upon arrival or departure, cardholders will not be required to lodge Embarkation or Disembarkation Cards. It is assumed that countries installing automatic reader equipment would accept the data on the Card as sufficient for their control purposes.

25. If a country with automatic reader facilities requires visas, the facilitation aspects in a) and b) above will still apply. In these cases, however, there will still need to be a visual check to confirm that the visa document (cf. para. 31 below) and the Card relate to the same person. This would affect the advantage under a) above.

26. Where the clearance control system does not involve automatic reader facilities and there are no visa requirements the facilitation aspect under a) above will still apply. Where the control system does not involve automatic reader facilities and there is a visa requirement, the degree of facilitation offered by using the Card may be considerably lower.

Suggested alternative means of providing Cardholders with visas

27. It is clearly recognized that the requirement for entrance visas is liable to represent one of the major obstacles in the introduction by States of the passport in card format. Since visas can obviously not be endorsed on a Card by traditional methods as on the pages of a conventional passport, elimination of visa requirements by each State for nationals of as many other countries as possible, when travelling as temporary visitors, is therefore an important factor in the success of the card-type concept. ICAO and other international organizations have urged States for many years to take all necessary steps in this direction. Annex 9, 7th Edition to the Chicago Convention on International Civil Aviation contains the following provision:

"3.7 Recommended Practice.- Contracting States should extend to the maximum number of countries the practice of abolishing through bilateral arrangements or unilateral action, entrance visas for temporary visitors.

Note.- As of the end of 1973, fifty-two Contracting States had already eliminated entrance visas in respect of nationals from fifty or more other countries. Seventeen of these States were in the Western Hemisphere, twenty-one were in Europe and the Middle East, nine were in Africa and five were in East and South Asia and the Pacific."

28. The United Nations Conference on International Travel and Tourism, held in Rome in 1963, adopted a similar Recommendation on this subject.

29. As will be seen from the Note under para. 3.7 in ICAO's Annex 9, there are a considerable number of States which have already made appropriate arrangements for visa-free entry of nationals from other States making temporary visits of three months or less. Some States, in fact, are known to have made such arrangements with up to 80 other countries. At present, therefore, a high percentage of air passengers, since they qualify as temporary visitors, no longer need to obtain any visas for many of their journeys.

30. On the other hand, there are States which, so far, have entered into visa abolition agreements with only a few other countries. In such cases, particular efforts are needed to bring national practices and procedures closer in line with the above Annex 9 provision and UN Recommendation as well as the existing worldwide trend towards liberalizing tourist travel.

31. In the case where a temporary visitor wishes to use his passport in card format, issued by his government as a valid travel document, but requires a visa for entry into the country of his destination, there are several possibilities for issuing such a visa, including the following:

a) endorsement of the visa in a visa book to be held in conjunction with the Card and used as the occasion warrants;

b) endorsement of the visa on the reverse side of a photocopy of the Card which the traveller holds;

c) endorsement of the visa on a form supplied by the country requiring the visa. Such a visa form would be identified with the person to whom it was issued.

32. As mentioned earlier, many countries will continue to issue conventional or improved passports for some time and where visas are required, these can be endorsed therein as has been standard practice in the past.

Issuance and acceptance of Passport Cards

33. It follows from the above that the overall objective is a situation whereby an increasing number of countries will enter progressively into the field of issuing Passport Cards to persons travelling abroad and accepting them from nationals of other States for clearance purposes. To this end, the following Recommendation is made:

34. Recommendation No. 1

It is recommended that:

a) those States which are unable to issue Passport Cards for reasons such as financial, security and technological constraints, should examine the possibility of producing uniform conventional passports by showing on the first page of their national passports all control information in the same standard format as in the clear-print zone of the Passport Card - see Appendix 'A';

b) those States which are in a position to issue Passport Cards should do so in accordance with Recommendations Nos. 2 to 6 in this document as soon as possible. They should issue also suitable documents, if this is necessary, to meet the visa requirements of other countries;

c) those States which are in a position to accept Passport Cards for clearance purposes should make appropriate arrangements as soon as possible according to their own possibilities and their control requirements. In cases where any of these States require a visa they should arrange an appropriate system to facilitate the presentation of visas in conjunction with passports when presented in card format;

d) those States which are not yet in a position to accept Passport Cards should continue to do everything possible to facilitate clearance with conventional passports.

FORMAT AND LAYOUT OF THE PASSPORT CARD

Dimensions of the Passport Card, its various zones, etc.

35. The standard format and layout of the Passport Card is shown in Appendices 'A' (front side of the Card) and 'B' (reverse side). Its overall dimensions are: 88.0 mm (3.47") width, 125.0 mm (4.92") length and its thickness is between 0.254 and 0.635 mm (0.010" - 0.025"). The dimensions relating to width and length refer to the outer limits of the document, i.e. from edge to opposite edge, whether issued in card or book form, and a 2 mm margin must be left along each outer edge before inserting data in clear-print or coded form. This size was chosen to allow, on the one hand, for good readability of the items of personal information considered necessary for inclusion in the Card and for sufficient compactness on the other to fit into coat pockets, etc.

36. It will be noted that the front side of the Card contains a clear-print zone which also includes the holder's photo and signature. The lower portion of the front side has been left free in anticipation of further developments in new encoding techniques which might be incorporated therein at some future date. Reference to space allocations for the various items of personal data can be found further below.

37. The reverse side of the Card features an area reserved for the insertion of travel restrictions, if any, on the top part and a zone for inclusion of magnetically encoded information for machine-reading in the center. Space between the area reserved for travel restrictions and the magnetic zone as well as the lower portion of the reverse side of the Card has been left free. Exact measurements of the various areas appear in Appendix 'B'.

38. Since standardization of size, layout and the type of information to be included is an important feature of the Passport Card, adherence to the specifications in Appendix 'A' to this document, when issuing Passport Cards, is important. The following Recommendation is therefore made:

39. Recommendation No. 2

It is recommended that when issuing Passport Cards, the sample form shown in Appendix 'A' hereto as the standard format for the Passport Card be strictly followed, including specifications for its overall dimensions, contents and exact space allocations of control information to be shown thereon.

The Clear-print zone of the Passport Card

40. It was considered impossible to include all the information that could conceivably be required strictly from a security point of view. Although the overall number of items of necessity had to be kept to a minimum, it has been possible to include all essential personal information necessary to identify the Cardholder. If a Card-issuing State should have a need for additional information, it is free to require such additional data on the application forms for Passport Cards as is presently done for conventional passports, which would be kept on file in the State of issue and could be used for tracing any wanted person.

41. In selecting the personal information items considered essential as shown below it was also recognized that, although some may be of questionable value to some States, their inclusion might assist in having the Passport Card more readily accepted in other States. Explanatory notes on various of these items will be found in paras. 46 to 53 below.

Information to be included

42. As indicated in Appendix 'A' hereto (cf. Rec. No. 2 above), the following items of personal data are included in the clear-print zone:

a) symbol to identify the Card
b) code of issuing country
c) card (serial) number
d) surname
e) given names
f) nationality of Cardholder
g) date of birth
h) national registration/personal no.
i) sex
j) place of birth
k) date of issue
l) date of expiry

In addition the title "Passport Card" and the name of the issuing country should be included on the upper part of the Card. Furthermore, the holder's signature and the photograph must be included. There is also space for optional use such as the issuing authority's stamp and signature.

43. In issuing Passport Cards, States are requested to indicate, in the clear-print zone only, the type of information shown in each box, apart from completing it with the holder's personal data. In other words, the holder's date of birth, for example, should be preceded by the words "date of birth", etc., as indicated in Appendix 'A'. This is considered necessary at least until the Card has received widespread acceptance and become sufficiently known to control officials.

44. All Passport Cards should contain, in the clear-print zone only, either English or French in addition to the language of the issuing State.

45. In producing the control information in the clear-print zone, OCR-B type characters as shown in Appendix 'C' should be used with 10 characters to the inch. The number of spaces reserved in each box for the information to be inserted can be gleaned from Appendix 'A' and also from column I of Appendix 'D' hereto.

Explanatory Notes on various items

46. The symbol to identify the Card as a Passport Card is mainly for automatic reading, and has been included in both zones of the Card. As far as the clear-print zone is concerned, its insertion had been agreed upon because of the possibility that optical reading techniques may be further developed in the future which could make such machine-reading of this zone economically feasible. Since a multiplicity of different documents would presumably be read in such a system to make it economically viable, the existence of an identification symbol in this zone was considered essential. For this purpose the letter 'P' has been designated and should always be inserted in the box entitled "Type".

47. Similarly, the country code to be found in the clear-print and machine-readable zones was included for automatic reading as it would add greatly to the computer's capability of distinguishing between different cardholders who may have in common certain other data in the machine-readable zones. Inclusion of that code in the clear-print zone is of considerable assistance in those instances where the control information for the magnetic zone is prepared as a by-product of the clear-print zone data.

The respective code to be used by each State when issuing Passport Cards is that developed by the United Nations Conference on Road and Motor Transport (Geneva, August/September 1949) consisting of up to three letters. However, in the case where a country's code contains less than three letters, the empty spaces must be filled by dashes.

48. It has been recognized that the insertion of names on the Passport Card could present difficulties, owing to the many different ways in which names are used in the various areas of the world and the space limitations on the Card. In cases where composite surnames cannot be shown in full due to space limitations, the predominant one as used by the Cardholder should be inserted.

49. Information concerning nationality was included on the Card even though the Card would presumably be issued in most cases to a national of the issuing State. However, information concerning nationality is usually a basic control item for the State into which the cardholder is seeking entry and a number of States might issue Passport Cards also to other nationals, residing in their respective territories.

50. In furnishing dates on the Passport Card, e.g. date of birth, the Gregorian calendar should be used and the information should be shown in the following standard manner:

a) All days should be shown by a two-digit number, i.e. the dates from one to nine should be preceded by a zero; this number to be followed by one empty space;

b) The month should be shown in an abbreviated fashion not exceeding four letters, followed by an oblique character (/);

c) The translation of the month should follow its original version, again up to a maximum of four letters with an empty space thereafter;

d) The year should be shown in a two-digit number only.

As an example, the indication of birth dates on the Card issued in the Italian language with French translation would appear as follows:

1	2	Δ	L	U	G		/	J	U	I	L	Δ	4	2

51. The box concerning the cardholder's sex has been included since first names do not always give a ready indication and appearances from the photograph may be misleading in this respect. It should be completed by the initials commonly used in the language of the country of issue, for which 3 spaces have been reserved, followed by a dash and this in turn followed by the letter M or F in the case where a translation of data into English or French is necessary. In cases where only the letter M or F needs to be shown, it should be inserted in the fifth space in this column for the purpose of possible future optical scanning techniques.

52. In cases where the Passport Card is being issued to a person whose place of birth was outside the country issuing the Card, the information should be supplemented by the country of birth. The name of the country should be indicated by using the official spelling adopted by the United Nations for designation of States.

53. As far as the photograph is concerned, it should be left optional for applicants to submit either colour or black and white photos. Although a "profile" picture might be preferable strictly from a security point of view it might be difficult, for psychological reasons, to insist on this and has been left to the discretion of issuing States. In any event, the photo on a Passport Card should be a recent photograph of high quality, the image on the photo should be well in focus, should fill the entire space reserved on the Passport Card for the purpose, i.e. 45 x 35 mm, and be in accordance with the specifications existing in the country of issue.

The Magnetic Zone of the Passport Card

54. On the reverse side of the Card, a zone (cf. Appendix 'B') has been reserved for inclusion of a magnetic tape for machine-reading by EDP system, repeating most of the personal data shown in the clear-print zone. Each alphabetical or numerical character on this tape is represented by magnetic coding. When an improved machine-readable passport is issued, the magnetic zone should be placed on the inside of the back cover. The holder of the document or the clearance control officer can check that the information recorded in the magnetic zone and spelled-out in the clear-print zone is the same, by means of a system providing screen display of the data recorded in the magnetic zone. This system could be installed in the offices of the authority issuing the document and also at clearance control points.

55. The support of this tape could be in polyester and for the magnetic coating an acicular iron oxide base could be used. The code used is shown in Appendix 'E'.

Items to be included in the Magnetic Tape

56. For automatic reading it is indispensable to standardize the type of information to be included in the magnetic zone, the exact placing of these data in that zone and the exact position of the magnetic zone on the Passport Card. States issuing the document are therefore invited to adhere strictly to the specifications of the following Recommendation:

57. Recommendation No. 3

It is recommended that the magnetic zone (cf. Appendix 'B') be used for encoding and machine-reading of the following control information:

a) symbol to identify the Card as a Passport Card;
b) code of issuing country (cf. para. 47 above);
c) card (serial) number;
d) name (surname and all other names as space permits);
e) nationality of cardholder (cf. para. 47 above);
f) date of birth;
g) national registration/personal number;
h) sex (initials M or F);
i) date of expiry.

Space allocation of characters reflecting the above control data will be governed by the specifications listed in column II of Appendix 'D'.

The Zone reserved for Travel Restrictions

58. In the case of a country issuing the passport in card format and imposing any travel restrictions, it may endorse them in clear-print in the zone on the reverse side of the Card (cf. Appendix 'B') reserved for this purpose. Such endorsement may consist, for example, of the names of States to which travel by the cardholder is prohibited. A State issuing the improved machine-readable passport will wish to endorse such restrictions, if any, in the same place as is isually done in the conventional passport.

MINIMUM SECURITY REQUIREMENTS FOR THE PASSPORT CARD AS A WHOLE

Materials to be used for producing the Passport Card

59. In producing the Passport Card described in the preceding Chapters, careful consideration should be given to the materials to be used for this purpose. As indicated in para. 19, the Card should incorporate safeguards equal to or better than the conventional passport both in terms of the medium as well as the entire system of operation (e.g. issuance, etc.). A Card produced by using security paper as a base which, after completion, is to be laminated, might have to be protected against falsification by the incorporation in such paper of active or inactive isotopes or watermarks or the use of printing techniques such as the guilloche method or intaglio printing whereas Cards in which information is embedded directly in the plastic material by a photographic process might need to be protected through other means, e.g. insertion of fibres having certain optical properties.

60. Each State should determine the security features required to achieve a satisfactory standard. Nevertheless, the following guidelines should be observed in producing the Passport Card:

61. Recommendation No. 4

It is recommended that the Passport Card be produced so that:

a) any attempt to alter a genuine document in any way would result in its virtual destruction or render such alteration clearly manifest to the eye; it might also be detectable by the mechanical or automated processes entailed in the use of the Card;

b) the creation of a counterfeit Card that would be visually acceptable and able to survive automated inspection processes would entail the acquisition of production equipment or materials so difficult to acquire illegally for this purpose that it would be unattractive to potential criminal elements.

62. While each State is left free to decide what kind of basic material it wishes to use in connexion with the Card, certain minimum characteristics, however, should be inherent in whatever material is selected. In addition, it will be necessary for all States issuing the Card to adhere to certain standards, for example, of the thickness of the lamination to ensure that, in automatic reading, a sufficiently strong signal is obtained. Details of these requirements are listed hereunder.

Listing of certain properties of materials applying to the Passport Card as a whole

63. Deformation Properties - The Card should be of such nature that plastic deformation due to normal use (bends, not creases) can be reduced elastically to flatness by the reading device, without impairing the usage of the Card or the functioning of the reader.

64. Hazards - The Card must present no toxic or other hazards in the course of normal usage.

65. Temperature Stability - The Card should be reliably readable either visually or by machine at various operating temperatures, ranging for example from -10°C to +50°C. The Card should not lose its reliability after being stored at very low and very high temperatures, for example from -35°C to +80°C.

66. Humidity Resistance - The Card should be reliable in operation at a relative air humidity of 5% to 95% with a maximum wet bulb temperature of 25°C. The Card should not lose its reliability of use when stored at a relative air humidity of 0% to 100%.

67. Durability - The Passport Card should maintain its reliability during normal use throughout a lifespan of at least five years.

Listing of certain properties of materials effecting the machine-readability

68. Properties related to OCR (Optical Character Reading)* - In the event that the OCR technique might become economically feasible at some future date, the effective contrast must be satisfactory according to standards normally applied for optical technique. This not only applies to the base material but also the covering and includes the effects of use during the whole lifespan of the Card.

*Also referred to as optical scanning technique.

69. Properties related to Magnetic Reading - The surface of the magnetic medium must be homogeneous. Magnetization will be achieved by saturation of the coating. The protective outer layer must not be magnetized and this layer must cause no significant perturbation of the magnetic field.

70. Regading the thickness of the covering, it must not exceed 0.25 mm.

71. Having thus enumerated certain properties of materials applying to the Card as a whole and effecting its machine-readability, the following Recommendation is made to issuing States:

72. Recommendation No. 5

While recognizing that issuing States have the freedom of choice of materials for producing the Passport Card, it is recommended that the selected materials contain the properties referred to in paras. 63 to 70 above. The card thus produced should aim at a lifespan of at least five years.

PROCEDURES AND SYSTEMS FOR USE IN CONNEXION WITH THE PASSPORT CARD

Equipment required for production of the Passport Card

73. For the production of the Passport Card, it is in the interest of the Card-issuing State to devise a system, in which the different production phases are well co-ordinated with each other and the Card can be produced with maximum efficiency. For example, in order to ensure efficient production and minimize clerical errors, the issuing State might consider using a system whereby personal data for inclusion in the clear-print and magnetic zones of each Card need to be entered into that system only once.

74. By way of an illustration, the different phases of production with the corresponding equipment needed for each step have been outlined in the table on the opposite page assuming that the issuing State has selected security paper (banknote type) as the basis of the Card, unto which personal data are to be typed in the clear-print zone, the photograph and magnetic tape are to be glued in their appropriate places and a plastic cover, having the properties listed in paras. 63 to 69 above, be applied to both sides of the Card. Comments on cost estimates for the various types of equipment required and production processes used will be found in paras. 84 to 86 below.

Process for manufacturing a card comprising (general layout)

- Clear-print zone on recto
- Recording zone on magnetic stripes on verso

The Card has three basic components, namely:

- Security paper
- Plastic protective layer for recto
- Plastic support for magnetic stripes and a protective layer for stripes, all in one block

Process A	Process B	Process C	Process D
So-called "start-process printing" machine controls two separate simultaneous operations: - printing the information in the clear-print zone of the security paper - recording on magnetic stripes	(same as A) - printing of information in clear on security paper - recording on magnetic tape	All information in clear, including the photograph, the signature and authentication are fixed on the security paper covered by a photo-sensitive layer by a photographic process.	The information in clear is typed directly on the security paper by the operator.
The photograph and signature are reproduced on film the size the security paper and this film is stuck on the recto of the security paper.	(same as Process A)		(same as Process A)
The security paper is located between the plastic protective layer on the verso and the plastic support of the security stripes. The result is compressed either warm or cold.	(same as Process A)	(same as Process A)	(same as Process A)
	A machine controlled by the magnetic tape recorded at the beginning undertakes the recording on the magnetic stripes.	A magnetic tape with the identity information is produced by a keyboard. This tape controls the recording on the magnetic stripes (same as Process B)	An operator records the information on the magnetic stripes by means of a keyboard.

Case No. 1:15-cv-02362-RBJ Document 64-17 filed 09/11/17 USDC Colorado pg 14 of 34

Zzyym v. Tillerson - AR 0422

Equipment for use at Clearance Control Points

75. With reference to equipment required at clearance control points and the procedures to be followed, it must be borne in mind that they will have to be designed to meet the requirements of the receiving country. These requirements will reflect the legislative provisions and the administrative policies of that country.

76. The requirements will differ considerably from country to country. For example, some countries may wish to record the inward and outward movements of all categories of travellers; some countries may wish to record the inward and outward movements of some categories only; and others may be concerned only with partial controls for specific groups.

77. For these reasons, it is unlikely that there will be uniformity in the inspection procedures followed by the various countries. The units of equipment which comprise the total system may not all be found in the systems of a particular country because of the different inspection procedures involved. However, there could be certain elements of equipment, e.g. Passport Card readers, which would, of necessity, have to be of a standard character although not necessarily of the same manufacture.

78. Each country, in considering the adoption of the standardized Passport Card with machine-readable capacities, must relate the facilities offered by the Card to its own objectives in admission control and decide on the nature and composition of the equipment needed to achieve these objectives either for recording, checking or other purposes.

79. As mentioned earlier, the Card, when issued in accordance with the specifications in the foregoing sections offers utilization at clearance control points in two different ways (or combination thereof): it may be read visually (clear-print zone), or automatically through the magnetic zone. Obviously, no equipment is needed for the first of these alternatives.

80. For automatic reading, it will be necessary to design and manufacture machines which are specially adapted for Passport Cards. However, given the advanced state of knowledge of recording and reading techniques for magnetic track systems, the development and production should prove simple and cheap.

81. Automatic readers, once installed at clearance control points, may be connected to:

- a modulator-demodulator which allows transmitting the data to a computer by telephone wire; or
- a display screen on which the data read on the magnetic tape may be shown; or
- both a modulator-demodulator and a screen. In this case, the computer's reply can be seen on the screen.

When several readers are connected to a computer by the same telephone line, it will be necessary to inter-connect a concentrator.

82. If there is a need for copying the data read automatically, it could be accomplished either by using a tape unit or a mini-cassette recorder reader. Alternatively, a conventional-type printer could be used for recording the data on paper in cases where a small number of Passport Cards are to be copied or a high-speed printer for large-volume copying.

83. Depending on the clearance procedures in effect and on the equipment, if any, used in checking the Passport Card, the clearance control official may thus carry out an immediate check by entering the Card into an automatic reader connected to a computer or a deferred check through reference to a tape unit.

ESTIMATION OF COSTS ASSOCIATED WITH THE PRODUCTION AND USE OF THE PASSPORT CARD

Estimating the costs of producing the Passport Card

84. In an effort to determine the cost of producing Passport Cards, a Card-issuing State will need to take into account a variety of factors. These seem to fall into three distinct categories: first, there is the cost of the materials to be used for the Card such as security paper, magnetic tape and plastic covering. Second, and more significant from the cost angle, are the different types of production machines. Third, the cost of personnel required for the various production phases will have to be taken into account.

85. It will be readily appreciated that the cost of producing the Card could vary significantly between different States. Amongst the determining factors, to name only a few, are the availability of some or all of the basic materials or equipment on the local market or alternatively the need to import them, the local wage scales prevailing in the issuing State, the degree of sophistication of the production equipment selected, the number of Cards produced each year, the degree of security built into the product, the degree of centralization or decentralization of production, etc.

86. For those and other reasons, it is difficult if not impossible, to present a global cost estimate which would have as much validity in one country as in the next. Nevertheless, an effort has been made to compile, for the guidance of Card-issuing States, a summary of certain cost figures which were available at the time of writing from research carried out in France during 1974. This summary has been reproduced in Appendix 'F' to this document. It must be clearly understood, however, that the figures shown therein are based on prices prevailing in 1974 and can be taken only as a general

guide. Extensive research in connexion with the Passport Card has also been carried out in other countries, notably in Canada, Germany, Sweden and the USA, including their estimated costs of producing the Card. Additional information, if required, concerning the cost estimates presented in Appendix 'F', based on research carried out in France, or on estimated cost figures based on research in Canada, Germany, Sweden and USA, may be obtained by writing to the addresses shown in the Note below.

87. As a general observation, it would appear that the cost of producing the Passport Card is not significantly different from that of producing the conventional passport.

Estimated costs of Automatic Reading of the Passport Card

88. Reference was made in para. 79 to the two different ways in which the Passport Card may be used in clearance controls. Visual inspection by clearance control officials requires no equipment and no additional costs therefore arise.

Note: If detailed information is required, please write to:

Mr. R.J. Sutherland
Chief Passport Officer
Department of External Affairs
48 Besserer Street
Ottawa, Ontario K1A 0G2
CANADA

Dr. J. Hertel
Federal Ministry of the Interior
D53 Bonn
Rheindorfer St. 198
FEDERAL REPUBLIC OF GERMANY

Mr. J. Maily
Administrateur Civil
Direction de la Réglementation
Ministère de l'Intérieur
75008 Paris
FRANCE

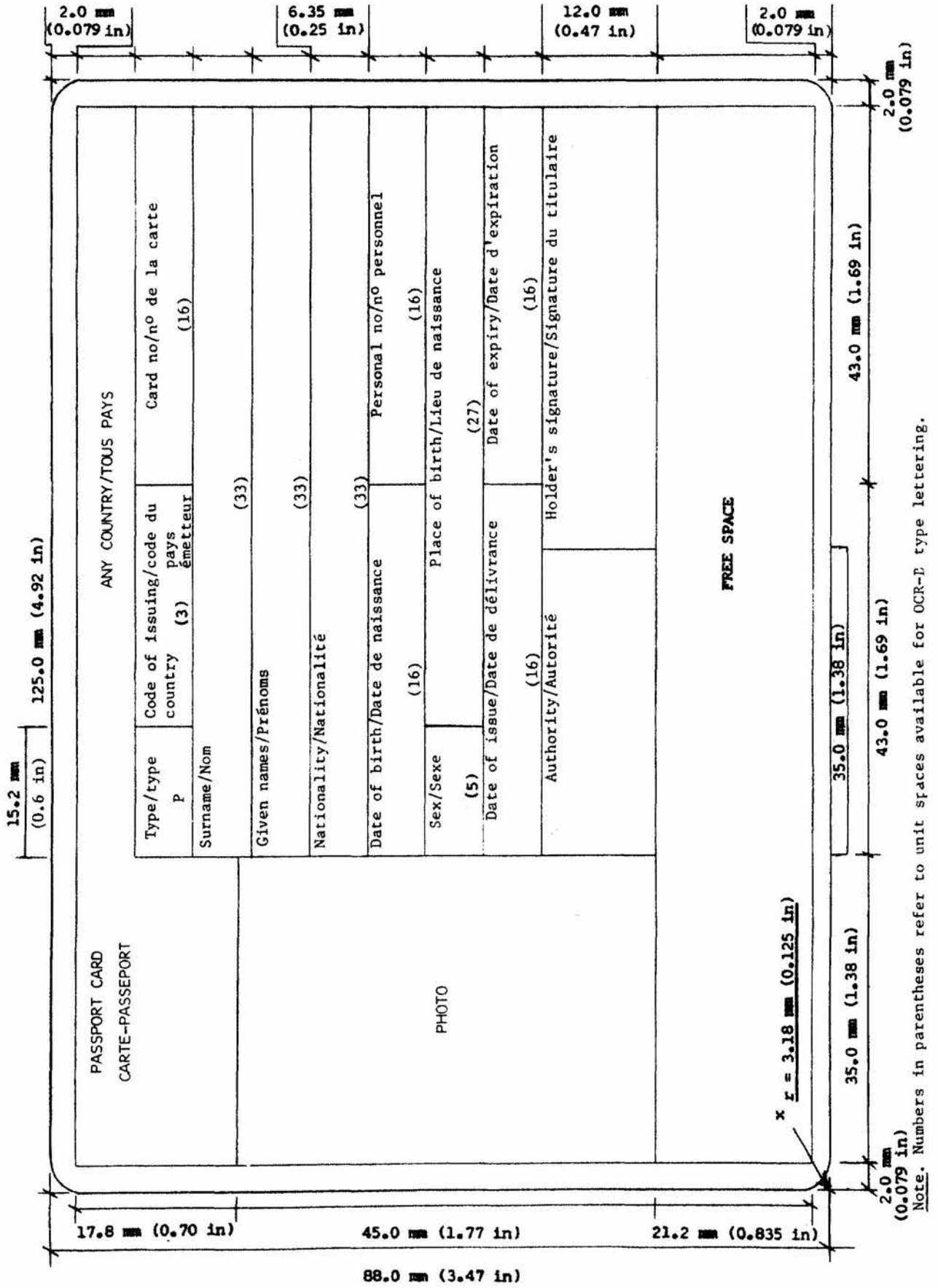
Mr. B. Rydén
National Swedish Police Board
St. Eriksgatan 20
Box 12256
S-10226 Stocholm
SWEDEN

Miss Frances G. Knight
Director
U.S. Passport Office
Room 600, McPherson Building
1425 "K" Street, N.W.
Washington, D.C. 20524
USA

89. As in the case of production equipment, the cost of automatic reading equipment may vary significantly, between different States, depending, inter alia, on place of manufacture, number of readers put into operation, types of readers utilized, etc. Here again, the aforementioned research may offer some guidance to States in estimating the costs involved in furnishing clearance control points with automatic readers. Appropriate information has been included to this end in Appendix 'G', again on the understanding that the figures are approximations and are to be used as a general guide only.

APPENDIX 'A'

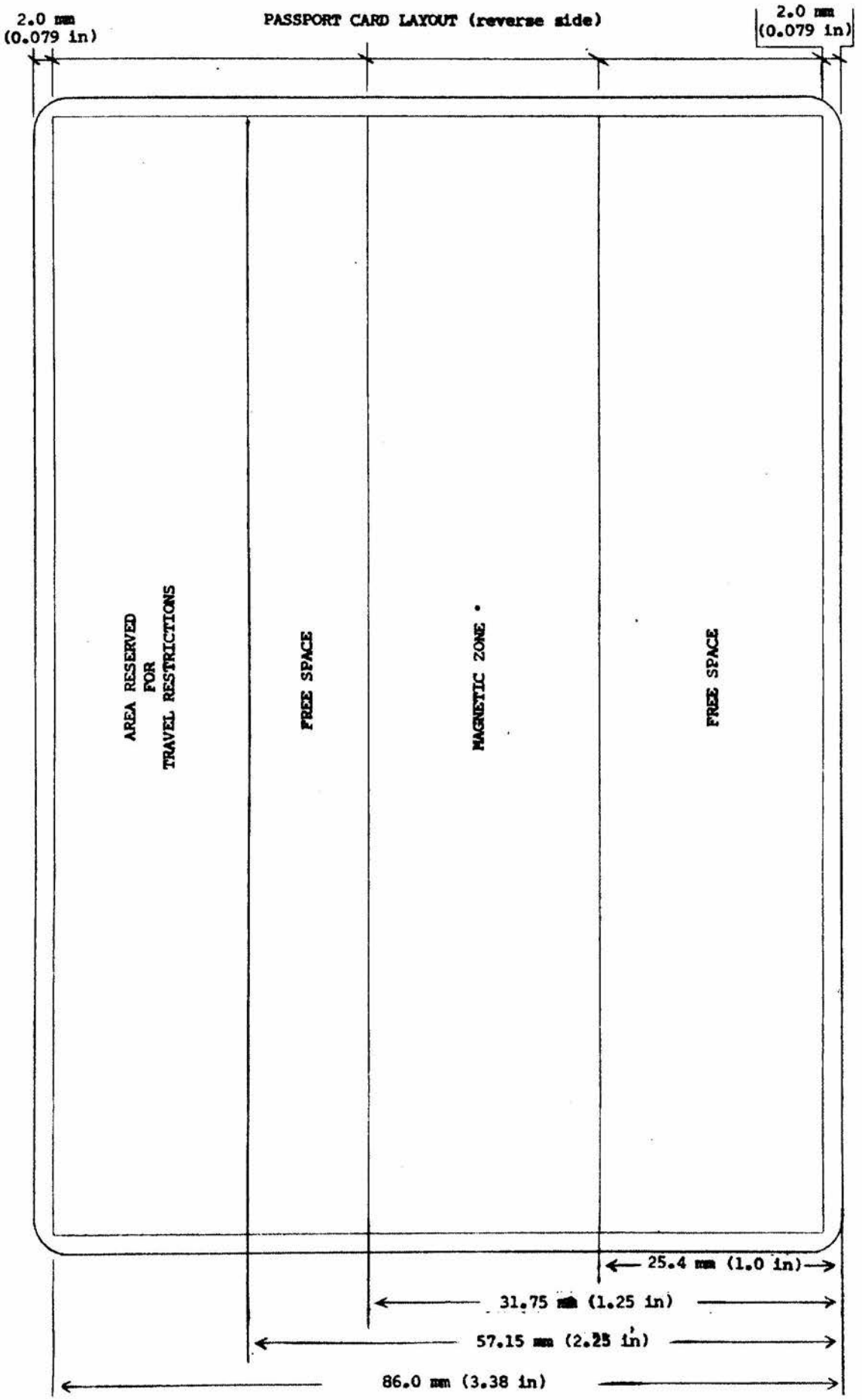
PASSPORT CARD LAYOUT (front side)



Note. Numbers in parentheses refer to unit spaces available for OCR-B type lettering.

APPENDIX 'B'

PASSPORT CARD LAYOUT (reverse side)



* Note: The organization of the magnetic zone shall be according to ISO Standard developed by ISO/TC 95/SC17.

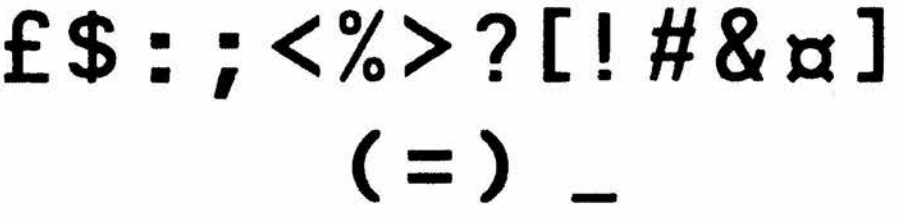
APPENDIX 'C'
EXCERPT FROM ISO RECOMMENDATION R 1831
CONCERNING OCR-B CHARACTERS

Y.4.2 Illustration of OCR-B characters (complete set according to ISO Recommendation R 1073) scale 5:1.

Y.4.2.1 Characters of OCR-B having a strokewidth of 0.35 mm (0.014 in) for sizes I and II and of 0.38 mm (0.015 in) for size III.



Y.4.2.2 Character of OCR-B having a strokewidth of 0.31 mm (0.012 in) for sizes I and II and of 0.34 mm (0.013 in) for size III, which are considered in clause 4.5.



Y.4.2.3 Characters of OCR-B having a strokewidth of 0.31 mm (0.012 in) for sizes I and II and of 0.34 mm (0.013 in) for size III, which are considered in clause Y.2.9.



APPENDIX 'D'

SPACE ALLOCATION OF CHARACTERS IN THE TWO ZONES OF THE PASSPORT CARD

Item	I Clear-Print Zone	II Magnetic Zone	
	No. of spaces	Characters	No. of spaces
Starting Code	0	1 =	1
Card type	1	1 =	1
Country of issue	11	3 =	3
Card number	16	9 + Ø =	10
Names, surname, first name	33+33 = 66	38 + SU =	39
Nationality	33	3 =	3
Date of birth	16	8 =	8
National Reg. No.	16	15 + Ø =	16
Sex	5	1 =	1
Place of birth	27	none =	0
Date of issue	16	none =	0
Date of expiry	16	8 =	8
Holder's signature	50mm x 12mm area	none =	0
Authority	optional	none =	0
Ending Code	0	2 =	2
TOTAL	223		92

Explanations

Ø = check character (for checking validity of characters and number of characters used within a given space; see Note on next page)

SU = separation unit

Note: In the Magnetic Zone, dates are to be shown by two digits each for day, month and year, in that sequence.

APPENDIX 'D' (cont'd.)

Note concerning check characters

Use checking system on the basis of ten's (EVONS).

Modulus 10, weighting 2, 1, 2, 1, 2, 1 with the formation of the product 10 = 1 + 0 in two-digit products.

Determination of check digit:

a) The decimal digits of the basic figure are to be multiplied with the weighted factors.

basic figure 3 4 5 6 7 (reserve weighting 1 for the check digit)

7 x 2 = 14, i.e. 1 + 4 = 5
6 x 1 = 6 = 6
5 x 2 = 10, i.e. 1 + 0 = 1
4 x 1 = 4 = 4
3 x 2 = 6 :10 = 2 remainder 2
22

b) The sum of these products is to be divided by the modulus.

c) The remainder is to be deducted from the Modulus and the difference represents the check digit 10 - 2 = 8.

d) The basic figure will be supplemented by the check digit 345678.

- - - - -

APPENDIX 'E'

Table of Codes for seven Elements of Information in the Magnetic Zone

- TO BE COMPLETED LATER -

APPENDIX 'F'

Estimating the costs of producing the Passport Card based on research carried out in France*

In general, accurate estimates were difficult to make because the existing equipment must be adapted to the implementation of the project. Nevertheless, only slight alterations need to be made to convert existing equipment and the recording technology on magnetic tapes is well known throughout the world. This comment applies both to production and operation. With regard to production, equipment costs for recording on tape range between 32,000 French Francs and 55,000 FFRS. Total investment for a small centre (400 cards/day) would be approximately 121,000 FFRS, whereas for a medium-sized centre (1400 cards/day maximum) this would be about 249,000 FFRS. Operating costs should allow production at a unit price from 2.90 FFRS to 3.50 FFRS per card in a medium-sized centre (300,000 cards per year maximum).

Overleaf is an outline of production operations and related cost estimates at a center producing 1400 Passport Cards per day, involving 10 employees. All estimated cost figures are, again, in French Francs.

---

* See page 49 if additional information is required.

APPENDIX 'F' (cont'd.)

Card Production Process - Clear-Print Zone and Magnetic Zone

Production: 1,400 cards per day - number of employees: 10

Analysis of Operations	Equipment	Equipment Cost	Remarks
I - Transfer on film of applicant's photo and signature	Conventional photographic equipment (3 employees)	11,600	
II- Printing in clear of information on security paper	Keyboard with control screen		With control and calculating logic circuit
	Printer	(2x90,000)	
III- Magnetic track recording	Magnetic track encoder	180,000	
	Electronic control and calculating logic circuit		Cost included in keyboard and screen costs
			2,400 cards per day
IV - Attachment of photo and signature on security paper	Gluing equipment (2 employees)		
V - Authentication and miscellaneous handling operations	(2 employees)		
VI - Plasticizing by combining: -protective plastic coating -plastic component with magnetic tracks -security paper placed between the two	(1 employee) 1 plastic coating press	40,600	350 cards per day
and trimming	trimming tool	6,700	
	TOTAL:	248,900	
VII - Checking	Magnetic track reader unit		

APPENDIX 'F' (cont'd.)

Production: 1,400 cards per day		
Depreciation: 248,900/5		49,780
Personnel: 10 employees		
1972 estimate of 12 employees:	494,910	
less 2 employees	60,000	434,910
	434,910	
Premises (unchanged in relation to center with stamping equipment)		57,500
Maintenance (10%)		24,890
		567,080

Maximum annual production: 350,000 cards: 1.60 + material 1.24 = 2.84

Average annual production: 250,000 cards: 2.24 + material 1.24 = 3.48

- - - - - - -

APPENDIX 'G'

Estimated costs of automatic reading of the Passport Card

Design costs for a reader would be 925,000 FFRS. The reader itself would cost from 4,000 to 5,000 FFRS; without additional equipment it would enable data to be fed into the computer. If other types of work are carried out, however, (de-coding, calculation of check key) this would raise the cost (15,000 to 17,000 FFRS) on the basis of present estimates; nevertheless, it is thought that a more detailed study would result in a very appreciable reduction of the latter costs. Finally, if a screen is required for each reader so that the data on the magnetic tape can be read, the combined reader and display unit together with small computer would cost a maximum of 28,000 FFRS, although it may be possible to cut this price considerably as well. Everything therefore depends on the size of the equipment with which a country intends to equip checking stations.

Modulators-demodulators which allow messages to be transmitted on telephone lines are believed to cost approximately 6 600 FFRS on an average. The concentrator (a small computer) which brings together the reader messages for transmission to a remote computer and is needed only in locations with a group of readers, is estimated to cost between 62 500 FFRS and 70 000 FFRS. However, more elaborate investigations may lead to the use of less expensive equipment.

If copies of automatically-read data are required, the recording system on mini-cassette costs about 18 000 FFRS while a tape unit would amount to approximately 70 000 FFRS. Copies by way of a print-out could be obtained by a machine costing between 15 000 FFRS to 20 000 FFRS for a slow printer of the teletype kind or 100 000 FFRS for a high-speed printer (100 lines a minute). It should be noted in this connexion that the slow printer is not suitable for the copying of data from a large number of Cards.

It follows from the above that the cost of the concentrator required in places where groups of readers are needed, adds to the cost of each automatic reading device compared to the cost of a single reader at an isolated station. To make a valid overall estimate, however, it must be borne in mind that a group of readers using a concentrator would necessitate fewer telephone lines, i.e. one only between concentrator and computer,

APPENDIX 'G' (cont'd.)

while several isolated readers would each have their own line to a computer. Therefore the calculation of annual operating expenses must take into account the rental fee for the telephone line. It must also make allowances for maintenance of the equipment referred to above which is estimated to be generally in the order of 10% annually of the purchase price. On the other hand it would seem possible to deduct the personnel expenses involved in keeping local files and in manual consultation of these files.

The research does not offer any cost estimates on rental time or outright purchase of the central computer which is no doubt subject to great variations from country to country and depending on the use of the equipment for purposes other than Passport Card reading but which must eventually be included in the estimation of annual operating costs by each State that wishes to introduce equipment for automatic reading of the Passport Card at its international airports and other clearance control points.

- - - - - - - -

INDEX OF RECOMMENDATIONS

	Page
RECOMMENDATION NO. 1 Issuance and acceptance of Passport Cards	34
RECOMMENDATION NO. 2 Standard format and layout of the Passport Card	36
RECOMMENDATION NO. 3 Data to be included in the Magnetic Tape on the reverse side of the Passport Card	40
RECOMMENDATION NO. 4 Certain guidelines for producing the Passport Card	41
RECOMMENDATION NO. 5 Certain properties of materials for use in producing the Passport Card	43

- END -

TO RETAIN IN POLICY SECTION

Doc 9303

A PASSPORT WITH MACHINE READABLE CAPABILITY



Published by authority of the Secretary General

1980

INTERNATIONAL CIVIL AVIATION ORGANIZATION

Published in separate English, French, Russian and Spanish editions by the International Civil Aviation Organization. All correspondence, except orders and subscriptions, should be addressed to the Secretary General of ICAO, P.O. Box 400, Place de l'Aviation internationale, 1000 Sherbrooke Street West, Montreal, Quebec, Canada H3A 2R2.

Orders for this publication should be sent to one of the following addresses, together with the appropriate remittance (by bank draft or post office money order) in U.S. dollars or the currency of the country in which the order is placed.

International Civil Aviation Organization.
(Attention: Distribution Officer),
P.O. Box 400, Place de l'Aviation internationale,
1000 Sherbrooke Street West,
Montreal, Quebec, Canada H3A 2R2

Egypt (Arab Republic of). ICAO Representative, Middle East and Eastern African Office, 16 Hassan Sabri, Zamalek, Cairo.

France. Représentant de l'OACI, Bureau Europe, 3 *bis*, villa Emile-Bergerat, 92200 Neuilly-sur-Seine.

India. Oxford Book and Stationery Co., Scindia House, New Delhi *or* 17 Park Street, Calcutta.

Japan. Japan Civil Aviation Promotion Foundation, No. 38 Shiba Kotohira-Cho, Minato-Ku, Tokyo.

Mexico. Representante de la OACI, Oficina Norteamérica y Caribe, Apartado postal 5-377, México 5, D.F.

Peru. Representante de la OACI, Oficina Sudamérica, Apartado 4127, Lima.

Senegal. Représentant de l'OACI, Bureau Afrique, Boîte postale 2356, Dakar.

Spain. Libreria de Aeronáutica y Astronáutica Sumaas, Desengaño, 12-3°-3, Madrid 13.

Sweden. C.E. Fritzes Kungl. Hovbokhandel, Fredsgatan 2, Box 16356, Stockholm 16.

Thailand. ICAO Representative, Far East and Pacific Office, P.O. Box 614, Bangkok.

United Kingdom. Civil Aviation Authority, Printing and Publications Services, Greville House, 37 Gratton Road, Cheltenham, Glos., GL50 2BN.

Do you receive the ICAO BULLETIN?

The **ICAO Bulletin** contains a concise account of the activities of the Organization as well as articles of interest to the aeronautical world.

The **Bulletin** will also keep you up to date on the latest ICAO publications, their contents, amendments, supplements, corrigenda, and prices.

Available in three separate editions: English, French and Spanish.
Annual subscription: U.S.$15.00 (surface mail); U.S.$20.00 (air mail).

Corrigendum No. 1
to Doc 9303

A PASSPORT
WITH MACHINE READABLE
CAPABILITY

(Doc 9303)

CORRIGENDUM NO. 1

Page 6, paragraph 31, 4th line:

Please insert, after the sentence ending with "...shown at Appendix C", the following sentence:

"Only those characters shown in the shaded areas of Appendix C should be used in the machine readable zone."

- END -