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SPECIFICATIONS ADOPTED BY AGENCIES
OF THE UNITED STATES GOVERNMENT
FOR THE PRODUCTION OF ROUTE CHARTS
OF THE WORLD. SCALE 1:2.000.000

Published by direction of the Council

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FOREWORD

The Aeronautical Charts Division (MAP), at its fifth session in October 1951, recommended that the specifications in use by the United States chart-producing agencies for Route Charts 1:2,000,000 should be reproduced by ICAO and made available for the information of Contracting States (see Final Report of the Session Doc 7222-MAP/567, Recommendation No. 21, page 131). This recommendation was approved by the Council on 4 December 1951.

The specifications issued by the Director of the U.S. Coast and Geodetic Survey are contained in this Circular and are published with the permission of the Government of the United States.

Since they were designed for internal use by U.S. Government agencies, certain administrative references are not applicable elsewhere. It should be noted that, while the compilation and drafting instructions and the Symbol Sheet follow in general the Standards and Recommended Practices contained in Annex 4 - Aeronautical Charts, they are published only for information.

A number of route charts have been published by the U.S.A. in conformity with these specifications. Details concerning the coverage and availability of these charts is published in the ICAO Aeronautical Chart Catalogue (Doc 7101).

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OF THE WORLD, SCALE 1:2,000,000

I. - GENERAL

A. PURPOSE AND SCOPE SPECIFICATIONS

These specifications constitute the basic standards for guidance in the construction of Aeronautical Route Charts of the World by the U. S. Coast and Geodetic Survey (USC&GS), the USAF Aeronautical Chart and Information Service (ACIS), the U. S. Hydrographic Office (USHO), and any affiliate or subsidiaries of these agencies. Adherence to these specifications will eliminate duplication of effort, permit uniformity in the portrayal of features charted, and assure factual agreement of detail shown in common on the charts. These specifications shall not be amended except by action of the ACC Subcommittee on Aeronautical Charts and Maps.

B. DEFINITION

Route charts are designed to meet air navigation requirements along one or more routes of high-traffic frequency between specific terminals. A route chart normally portrays any information required for radio and visual navigation. The amount of detail shown may vary with the scale used; care being taken not to congest the chart.

C. LIAISON BETWEEN AGENCIES

All necessary liaison shall be maintained at the working level among the three agencies.

The Joint Specifications may contain variables such projections, scales or sheet sizes which will necessitate discussion and agreement by representatives of the C&GS, Navy and Air Force when the specifications are applied to meet individual chart requirements.

II. - SCALE

These specifications are developed on the premise that the basic scale for the majority of the charts shall be 1:2, 000, 000.

Note. - In some areas it will be desirable to use scales smaller than 1:2,000,000 to incorporate the required routes and terminals on a single chart. However, charts shall not be produced at scales smaller than 1:5,000,000.

III. - PROJECTION

The basic projection for the majority of the charts shall be the Oblique Mercator Projection.

Note. - In some areas it will be desirable to use projections other than the Oblique Mercator. The Lambert Conformal Conic Projection may be used in areas covered by a co-ordinated series of charts, scale 1:2,000,000, constructed on this projection. The limits of the three bands on the Lambert Conformal Conic Projection, and the "Standard Parallels" for each band, shall be:

LIMITS OF PROJECTION

4 and 28
28 and 48
48 and 72

STANDARD PARALLELS

at 7 and 20
at 33 and 45
at 55 and 65

In special cases the limits of the projection of the bands and the spacing of the "Standard Parallels" may be modified to suit the configuration of the land masses.

Over long water routes, the Mercator projection may be used.

A. LATITUDE

Spacing of all lines of latitude shall be at one (1) degree intervals with every other parallel (even) line graduated. All parallels shall extend to the neat line and shall be numbered within the border of the chart. The tick interval of latitude shall be at every five (5) minutes along the designated lines of longitude.

B. LONGITUDE

Spacing of all lines of longitude shall be at one (1) degree intervals with every third meridian line graduated. All meridians shall extend to the neat line and shall be numbered in the border of the chart. The tick interval of longitude shall be at every five (5) minutes along the designated lines of latitude.

C. TICK MARKS

The five (5) minute and the ten (10) minute ticks shall extend away from Greenwich and the Equator. The thirty (30) minute ticks shall extend equidistant on each side of the line. At 0° and 180° longitude and on the Equator

all tick marks shall extend equidistant on each side of the line. The five (5) minute tick shall measure 0.05"; and the ten (10) minute tick shall measure 0.10" and the thirty (30) minute tick shall measure 0.20" overall.

D. GRATICULE

All parallels and meridians shall extend to the neat line and shall be numbered in the border of the chart. In addition, each parallel, not graduated, and the first meridian to the left of each graduated meridian shall be numbered within the body of the chart, as near the intersection of these lines as is practicable. Graduated meridians and parallels shall not be numbered within the body of the chart. (See attached sample sheet.)

IV. - SHEET SIZE

The sheet size for charts of this series shall vary in accordance with the desired area of coverage.

A. WIDTH

The minimum width shall be 15-1/2 inches. In some areas it will be necessary to exceed the minimum width to include the required routes and terminals on a single chart. However, in no case shall the sheet exceed a maximum width of 31 inches.

B. LENGTH

The maximum length shall not exceed 56 inches.

V. - GRAPHIC SCALES FOR THE MEASUREMENT OF DISTANCES

Three (3) graphic scales representing the measurement of distances in nautical miles, statute miles and kilometres, based on the scale factor average of the chart coverage, shall be located between the neat line and the heavy border line on the long dimension of the chart. The scales shall appear in the following order:

NAUTICAL MILES;
STATUTE MILES;
KILOMETRES.

The scales shall read from left to right and shall have their zero points coincident with the same vertical line. To the right of the zero point, each scale shall be graduated at intervals of twenty-five (25) units. To the left of the zero point, each scale shall be extended an equivalent distance of twenty-five (25) units and shall be graduated at intervals of five (5) units.

In cases where the chart exceeds the minimum width, a graphic scale representing the measurement of distances in nautical miles shall be located between the neat line and the heavy border line opposite the border which includes the three-scale combination.

All scales shall extend from border line to border line and shall be labelled between folds.

VI. - BORDER DIMENSIONS

A. Dimensions from the neat line to the outer edge of the heavy border line, including the three-scale combination, are as follows:

	<u>CM</u>	<u>IN</u>
Inside line of nautical mile scale.....	0.552 cm.	0.217 in.
Inside line of statute mile scale	0.806 cm.	0.317 in.
Inside line of kilometre scale.....	1.060 cm.	0.417 in.
Inner edge of heavy border line.....	1.314 cm.	0.517 in.
Outer edge of heavy border line.....	1.390 cm.	0.547 in.

B. Dimensions from the neat line to the outer edge of the heavy border line, where no scales or tint box are included, are as follows:

Light border line.....	0.990 cm.	0.390 in.
Inner edge of heavy border line.....	1.180 cm.	0.465 in.
Outer edge of heavy border line.....	1.256 cm.	0.495 in.

C. Dimensions from the neat line to the outer edge of the heavy border line, in cases where the nautical mile scale is included in the border, are as follows:

Inside line of nautical mile scale.....	0.55 cm.	0.217 in.
Inner edge of heavy border line.....	0.81 cm.	0.317 in.
Outer edge of heavy border line.....	1.57 cm.	0.347 in.

Where topographic detail will not permit the placement of the altitude conversion scale and the gradient tint box within the body of the chart, the border along the width of the chart on the left side shall be constructed to accommodate them. The dimensions from the neat line to the outer edge of the heavy border line shall be as follows:

Light border line.....	2.54 cm.	1.00 in.
Inner edge of heavy border line.....	2.71 cm.	1.07 in.
Outer edge of heavy border line.....	2.78 cm.	1.09 in.

VII. - CONVERSION OF ELEVATIONS - GRAPHIC SCALE

A uniform conversion scale, in terms of metres and feet, shall be shown. Depending on available space, either a vertical or a horizontal scale may be used.

VIII. - TITLE AND MARGINAL INFORMATION

A. TITLE

The title of this series shall be: ROUTE CHART.

B. NAME

The name of each chart shall be so devised that two selected major terminals shall serve as identification. When other major terminals are included on the chart, their names shall be shown, in parenthesis, directly beneath the chart name and number.

C. NUMBER

The number of each chart shall be selected at the time of assignment for production of the chart, and shall conform to the overall index for the series.

D. OTHER MARGINAL INFORMATION

Other marginal information shall include the following:

1. Authority note;
2. Base information note;
3. Aeronautical information note;
4. Edition note;
5. Users' note;
6. Fractional scale;
7. Joint Specifications note;
8. Projection note;
9. Magnetic information note;
10. "Elevations in Feet" note;
11. Seal (Agency);
12. Lithographic imprints (Optional);
13. Security classification note, when required;
14. Price (Optional);
15. Chart Location index;
16. Legend - Aeronautical;
17. Consult other sources note;
18. De Facto boundary note.

To meet specific requirements it may be necessary to incorporate marginal information in addition to that listed.

For the positioning of the title and marginal information, refer to the standard style and symbol sheet.