

4-1944

# Photographic Interpretation Handbook, United States Forces: Frontmatter & Section 1 Organization

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# Photographic Interpretation Handbook

United States Forces

Office of the Assistant Chief of Air Staff,  
Intelligence, HQ, US Army Air Forces  
and  
Photographic Interpretation Center,  
Division of Naval Intelligence, Navy Department  
April 1944

Robert L Bolin, depositor, University of Nebraska-Lincoln Libraries

## Abstract

This report represents the state-of-the-art for photographic intelligence in April 1944 as understood by the Army Air Forces/Navy photographic intelligence effort in the Washington, DC, area. It gives data needed by photo interpreters and service members working with photographic intelligence. It includes mathematical, technical, and organizational data and aids for identification of various types of installations, structures, ships, aircraft, and fighting vehicles.

The handbook includes:

Front matter

Section 1	Organization
Section 2	Interpretation Check Lists
Section 3	Glossary and Symbols
Section 4	Tables
Section 5	Formulae
Section 6	Reconnaissance Photography
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Section 13	Aircraft Identification
Section 14	Ships and Shipping
Section 15	Naval Vessel Identification
Section 16	Armored Force Vehicle Identification
Section 17	Miscellaneous

A detailed table of contents is available in the front matter.

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**P H O T O G R A P H I C  
I N T E R P R E T A T I O N  
H A N D B O O K — U N I T E D  
S T A T E S  
F O R C E S**

**OFFICE OF THE ASSISTANT CHIEF OF AIR STAFF,  
INTELLIGENCE, HQ., U.S. ARMY AIR FORCES**

**A N D**

**PHOTOGRAPHIC INTERPRETATION CENTER,  
DIVISION OF NAVAL INTELLIGENCE, NAVY DEPARTMENT**

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PHOTOGRAPHIC  
INTERPRETATION  
HANDBOOK...

UNITED STATES FORCES

OFFICE OF THE ASSISTANT CHIEF OF AIR STAFF  
INTELLIGENCE, HQ., U.S. ARMY AIR FORCES  
AND  
PHOTOGRAPHIC INTERPRETATION CENTER,  
DIVISION OF NAVAL INTELLIGENCE, NAVY DEPARTMENT

**PREFACE**

This Handbook was prepared through the joint efforts of personnel of the Photographic Division, Office of the Assistant Chief of Air Staff, Intelligence, A.A.F, and of the Photographic Interpretation Center, Air Intelligence Group, Division of Naval Intelligence, Office of the Chief of Naval Operations, Navy Department. It is intended for use as a reference manual by both Army and Navy interpreters in the theaters of operation, and replaces (for Navy use) the 'Photographic Interpretation Handbook' published by the Photographic Interpretation Center, Naval Air Station, Anacostia, D.C.

Attention has been directed to the type of information and reference material not readily available in forward areas. The training of inexperienced interpreters has not been considered as a primary objective in this publication. The Handbook is made in looseleaf form so that obsolete material may be easily removed and supplements added as new information and procedures are prepared and distributed.

In addition to original material prepared by the above named organizations, information and certain data have been included from sources listed below:

- Air Intelligence School, Army Air Forces
- Air Ministry, United Kingdom
- Allied Air Forces, S.W.P.A
- American Nautical Almanac, U.S. Naval Observatory
- Central Interpretation Unit, Royal Air Force
- Identification and Characteristics Section,  
Division of Naval Intelligence
- Landing Craft Section, Bureau of Ships
- Office of the Geographer, Department of State.
- School of Photographic Interpretation,  
Naval Air Station, Anacostia, D.C.
- Special Devices Section, Naval Aviation Training Division
- Technical Division, Office of the Chief of Ordnance, A.S.F.
- Training Aids Division, A.C./A.S., Training, A.A.F.

Material included in the present Handbook was prepared as of April 1944. Supplements will be dated as issued.

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# SECTION 1 ORGANIZATION

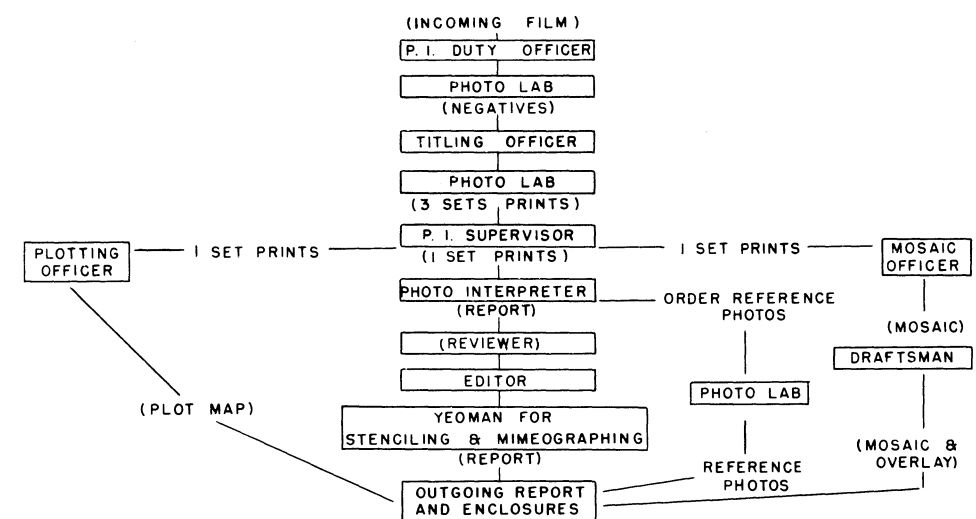
1.01 — 1.99



GENERAL OFFICES & DUTIES IN A 2ND PHASE PHOTO INTERPRETATION UNIT - NAVY

1. Photo Interpretation Supervisor: Assigns sorties to various officers for interpretation, plotting and making into mosaics. Decides if a sortie merits a report and if so assigns it a report number. Records progress of reports on flow chart. Edits reports in emergencies.
2. Photo Interpreter: Writes the interpretation report in rough form. Checks over this report with the reviewer. Orders reference photos. Files copy of report, with reference photos, in master folder of the given area. Incorporates any appropriate prints or data in the objective folder of the area.
3. Reviewer: Checks the interpreter's report for factual accuracy.
4. Editor: Checks the report for clarity and grammar, after it has been reviewed. Proof reads the stencilled report before it is mimeographed.
5. Secretary: Supervises stencilling, printing and mailing of all reports. Handles all requests for prints and for photography. Opens and answers official mail. Supervises yeomen, makes out watch lists, etc.
6. Plotter: Plots location of each sortie on a map and files map in a plot-chart book of the area.
7. Filing Officer: Makes a file card, by area, for each sortie with cross-file cards where the sortie covers other areas also. Files one set of prints of each sortie by sortie number, not by area.
8. Draftsman: Grids mosaics, makes title cards and overlays.
9. Titling Officer: Titles negatives.
10. Mosaic Officer: Lays mosaics.

SECOND PHASE INTERPRETATION REPORT  
GENERAL PROCEDURE FOR PREPARATION



# ORGANIZATION

## FLOW CHART - ARMY

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DESCRIPTION OF CHART SHOWING FLOW OF RECONNAISSANCE AND INTERPRETATION REQUESTS AS ACCOMPLISHED IN A THEATER HAVING TACTICAL AND STRATEGIC OPERATIONS - ARMY

Requests for reconnaissance, interpretation, reports, mosaics, models, photo reprints and target charts are first submitted to the Central Interpretation Unit. These requests are inspected to determine first if there is any duplication; second, if the desired information is already available from previous reconnaissance and interpretation; third, to establish priorities and fourth to issue orders for the material requested.

Requests which require reconnaissance are scheduled and sent to the photo reconnaissance headquarters to be flown according to priorities established. Such requests are divided into two types, routine and special. Routine reconnaissance missions are flown periodically over designated areas. Special missions may require one or more flights over designated areas to obtain certain specified information.

Films are delivered to the Photo Reconnaissance Laboratory as soon as a mission is completed. There the film is processed and one or more sets of prints prepared as required. The prints are delivered to the 1st Phase Interpreters who accomplish the immediate interpretation and forward 1st Phase (or Flash) Reports as quickly as possible to a predetermined list of recipients by means of teletype, radio or messenger.

As soon as the prints have been delivered to the 1st Phase Interpreters, the film is forwarded to the C.I.U. Laboratory where another set of prints is prepared and sent to the 2nd Phase Interpreters. The film at this point is then filed for future reference and use. 2nd Phase prepares an interpretation report passing the prints on to the Plotting Section. The reports are sent to the Clerical Section where they are typed, reproduced and sent to the proper recipients.

Plotting prepares and reproduces the required number of plot maps and then forwards the prints to the Print Library where the prints are filed for use by the various 3rd Phase Interpretation and related Sections of the C.I.U.

Requests which do not require reconnaissance flights are sent to the Expediting and Priority Section. This Section maintains a complete file of requests, a daily workload sheet and records to indicate date request was received, dates due and dates delivered for all requests. It also establishes priorities for all requests.

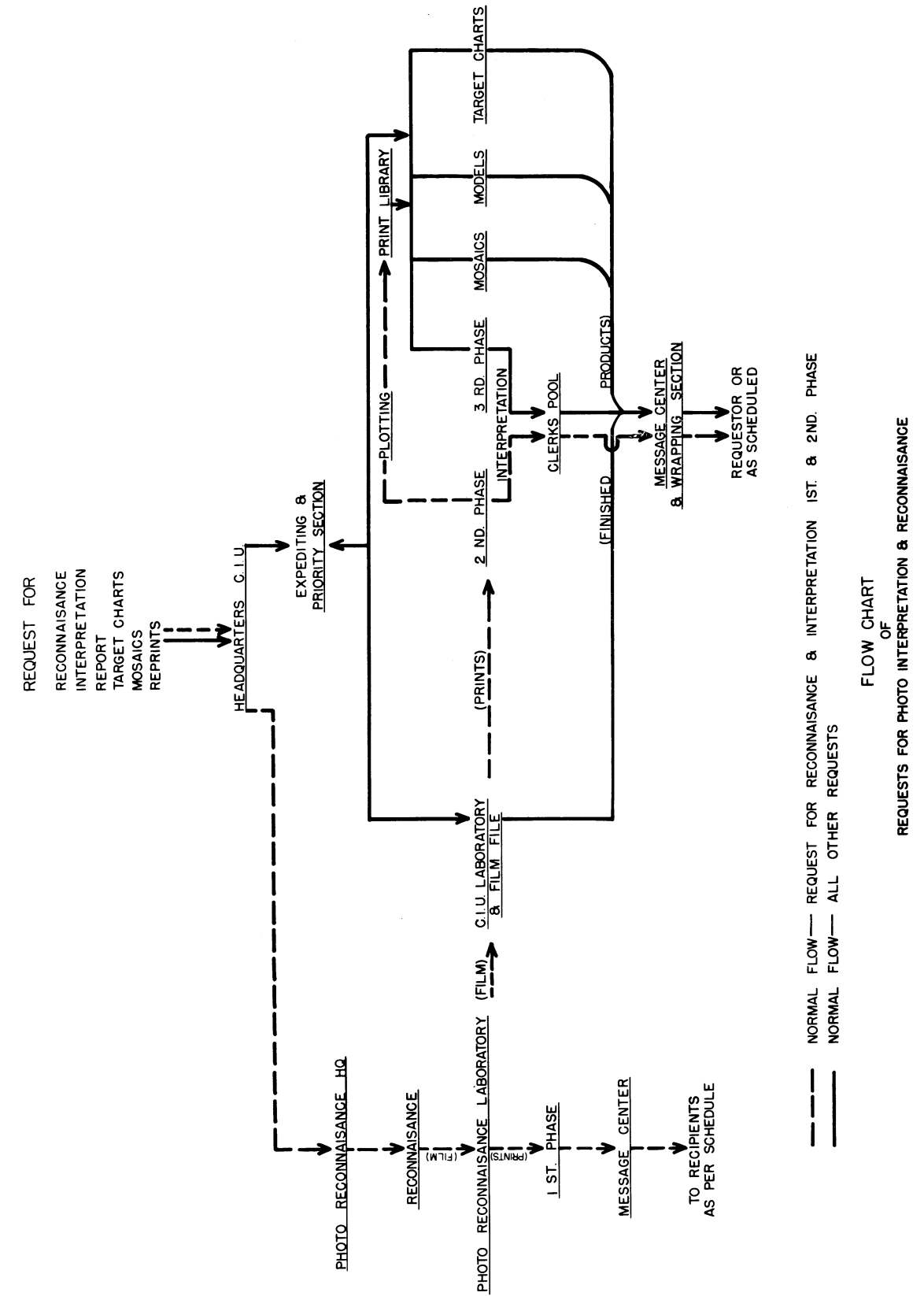
When the priority section receives the request, having established the priority it prepares an order which is sent to the proper section to be completed as called for. The section receiving the order completes and forwards it to the message center for delivery stamping the order as completed and returning it to the expediting section so that the records may be completed.

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# ORGANIZATION

## FLOW CHART - ARMY (CONT.)



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**ORGANIZATION**  
SECURITY CLASSIFICATION

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SECURITY CLASSIFICATIONS  
UNITED STATES AND BRITISH FORCES

ARMY: War Department Circular 91, 29 February 1944 (pertinent part)

NAVY: ALNAV 292213/44 of February 1944

292213 Combined Chiefs of Staff have agreed upon identical definitions and policy concerning classified matter to be effective in armed forces United States and British Empire. This agreement hereinafter quoted hereby issued for compliance by all members naval establishment where-soever located. Accordingly those portions of Navy Regulations, general orders, letters and instructions inconsistent with the provisions of the agreement quoted herein are suspended pending formal changes in regulations and instructions to be issued in detail near future. Personnel are not to presume that adoption of additional classification 'Top Secret' reduces present integrity of existing classifications. Material must be classified in strict accordance with definitions and safeguarded as directed by existing regulations and modifications contained in agreement quoted. All hands are enjoined to grade and classify matter with exacting care in order to avoid over-classification. This order effective 0001 Z(GCT) 15 March 1944. Classified matter originated prior effective date need not be reclassified to accord with this order except when such matter is still current or perpetuated by additions or accessions issued after effective date. Combined Security Classifications Agreement is quoted as follows:

COMBINED SECURITY CLASSIFICATIONS  
AGREEMENT-NEED FOR CLASSIFICATION

1. To safeguard official matter, it must be examined and graded into categories so that it may be recognized and accorded proper handling. To grade matter accurately and uniformly the following general policy and definitions have been agreed upon by the combined Chiefs of Staff to become effective 15 March 1944. The detailed instructions based thereon will be issued by the several services concerned not later than 1 April 1944.

DEFINITIONS

2. For the purpose of this agreement, the following definitions apply:
- (a) Documents: Any form of recorded information.
  - (b) Materiel: Any article, substance, or apparatus.
  - (c) Handling: Care in transmission and custody.
  - (d) Distribution: Extent of actual or authorized issue of specific matter.
  - (e) Cryptographic System: Code and/or cipher and instructions therefor.
  - (f) Registered matter(Document): Any classified document or device registered usually by number and periodically accounted for.

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**ORGANIZATION**  
SECURITY CLASSIFICATION (CONT.)

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- (g) Order of battle: Important dispositions of our forces with the identities of the units and formations composing those forces in or adjacent to operational theaters.
- (h) Munitions of war: Any item used for war.

CATEGORIES

3. Official matter requiring classification shall be examined and graded under one of the following categories: Top Secret(signal abbreviation, TOPSEC), Secret, Confidential, Restricted.
4. The United States regards Top Secret as a subdivision of Secret, on the other hand, the British regard Top Secret as a distinct category. Although this difference of view is recognized, it is immaterial to this agreement under which complete working uniformity is obtained by the adoption of agreed definitions, examples and rules of treatment for the handling of all classified matter.
5. Providing the following definitions and rules for handling are mutually accepted and rigorously implemented, the difficulties can be overcome.

TOP SECRET

6. Certain secret documents, information and materiel the security aspect of which is paramount and whose unauthorized disclosure would cause exceptionally grave damage to the Nation shall be classified Top Secret.
7. The following are some examples of matter which normally will be graded Top Secret.
- (a) Plans or particulars of future major or special operations.
  - (b) Particulars of important dispositions or impending moves of our forces or convoys in connection with (a) above.
  - (c) Very important political documents dealing with such matters as negotiations for alliances and the like.
  - (d) Information of the methods used or success obtained by our Intelligence Services and Counter-Intelligence Services or which would imperil secret agents.
  - (e) Critical information of new and important munitions of war, including approved scientific and technical developments.
  - (f) Important particulars of cryptography and cryptanalysis.

SECRET

8. Documents, information, or materiel, the unauthorized disclosure of which would endanger national security, cause serious injury to the interests or prestige of the Nation, or any governmental activity thereof, or would be of great advantage to a foreign nation shall be classified Secret.
9. The following are some examples of matter which normally will be graded Secret:
- (a) Particulars of operations in progress.
  - (b) Plans or particulars of operations not included under Top Secret.
  - (c) Instructions regarding the employment of important munitions of war.

RESTRICTED

# ORGANIZATION

## SECURITY CLASSIFICATION (CONT.)

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- (d) Order of battle information and locations and moves affecting the order of battle.
- (e) Knowledge of enemy materiel and procedure, the value of which depends upon the enemy not knowing that we possess it.
- (f) Vital military information on important defenses.
- (g) Certain reports of operations containing information of vital interest to the enemy.
- (h) Adverse reports on general morale affecting major operations.
- (i) Important improvements to existing munitions of war until accepted for service use.
- (j) Photographs of vulnerable points or vital installations under our control.
- (k) Certain development projects.
- (l) Important cryptographic devices unless assigned to a lower category.

### CONFIDENTIAL

10. Documents, information, or materiel, the unauthorized disclosure of which, while not endangering the national security, would be prejudicial to the interests or prestige of the nation, any governmental activity, an individual, or would cause administrative embarrassment, or difficulty, or be of advantage to a foreign nation shall be classified Confidential.

11. The following are some examples of matter which normally will be graded Confidential:

- (a) Matters, investigations, and documents of a personal and disciplinary nature, the knowledge of which it is desirable to safeguard for administrative reasons.
- (b) Routine operational and battle reports which do not contain information of vital interest to the enemy.
- (c) Routine intelligence reports.
- (d) General military radio frequency allocations.
- (e) Military call signs, unless so collected together that they reveal the order of battle.
- (f) Meteorological information of designated areas.
- (g) Unit movements of non-operational significance in areas within or adjacent to operational theaters.
- (h) Certain technical documents and manuals used for training, maintenance and inspection of important new munitions of war.
- (i) General tactical lessons learned as a result of operations.
- (j) Aerial photographs of territories under our control in or adjacent to operational theaters.

### RESTRICTED

12. Documents, information or materiel (other than Top Secret, Secret, or Confidential) which should not be published or communicated to anyone except for official purposes shall be classified Restricted.

13. The following are some examples of matter which normally will be graded Restricted:

- (a) Information of moves of non-operational significance in areas remote from theaters of war.

RESTRICTED

RESTRICTED

RESTRICTED

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- (b) Training and technical documents for official use only or not intended for release to the public.
- (c) Certain routine documents relating to supply and procurement.
- (d) Aerial photographs of territories under our control remote from operational theaters.
- (e) Photographs of enemy, enemy-occupied or dominated areas except those which reveal secret sources.
- (f) Strength returns of units remote from operational theaters.

### GENERAL PRINCIPLES GRADING

14. The designation of persons responsible for grading and regrading will be a function of the appropriate authorities.

15. Each document should be graded according to its own content and not necessarily according to its relationship to another document. This also applies to extracts from graded documents.

16. The grading of a file or group of physically connected documents shall be that of the highest graded document therein.

### REGRADING

17. It is the obligation of all authorities to keep classified matter constantly under review and to downgrade it as soon as conditions permit.

### TRANSMISSION OF CERTAIN MESSAGES BY ELECTRICAL MEANS

18. Messages which have been transmitted or are to be transmitted in a high-grade cryptographic system of one nation will not be relayed or transmitted by the other nation between point of origin and destination by electrical means in clear language or unapproved 'scrambler' system or low-grade cryptographic system.

### HANDLING (Treatment)

19. No person is entitled solely by virtue of his rank or position to knowledge or possession of classified matter. Such matter is entrusted only to those individuals whose official duties require such knowledge or possession.

### SECRET

20. Secret matter will be handled in accordance with the following rules:

- (a) The highest grade cryptographic systems available will be used for the transmission of secret messages.
- (b) Secret documents will be transmitted only by officially designated courier in double sealed envelopes, the inner one being marked secret, and will be opened only by the addressee or his authorized representative. Where officially designated courier service is not available, Secret documents may be transmitted by registered mail service or mail service superior to registered mail service, if the service is completely within national control.

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# ORGANIZATION

## SECURITY CLASSIFICATION (CONT.)

# ORGANIZATION

## SECURITY CLASSIFICATION (CONT.)

RESTRICTED

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(c) Transmission and custody of these documents and materiel will normally be covered by a receipt system and registered documents or materiel periodically accounted for. It is mandatory that registered documents be covered by a receipt system.

(d) Secret messages will not be transmitted by electrical means in the clear, except for approved circuits and providing the rule in Paragraph 18 is not violated.

Notes: (1) An approved circuit is: A circuit approved by the theater commander. The British services 'defence teleprinter net-work' in the United Kingdom.

(2) This item will not appear in United States Regulations on Cryptographic Security. It will be released immediately to responsible commanders in special letters of instructions.

(e) It is the responsibility of the commissioned officer or equivalent civilian holding custody of Secret documents to ensure that all security precautions are taken to guard such documents at all times.

### TOP SECRET

21. Top Secret matter will be handled in accordance with the above rules, with additional safeguards as follows:

- (a) Under no circumstances will such matter be transmitted by registered mail.
- (b) Under no circumstances will messages so graded be transmitted by electrical means in the clear.
- (c) It is mandatory that transmission and custody of such matter be covered by a receipt system.
- (d) Top Secret documents will be handled only by persons specifically designated and may not be disclosed to any person solely by virtue of his rank or office.

### CONFIDENTIAL

22. Confidential matter will be handled in accordance with the following rules:

- (a) Confidential documents, except registered, will be transmitted by approved official means. Registered Confidential documents will be handled in the same manner as registered Secret documents.
- (b) It is the responsibility of the commissioned officer or equivalent official holding custody of Confidential documents to insure that appropriate security precautions are taken at all times.

### RESTRICTED

23. Restricted matter will be handled in accordance with the following rules:

- (a) Restricted documents will be transmitted by such approved channels as will provide a reasonable degree of security.
- (b) Registered Restricted documents will be transmitted to and from foreign countries in the same manner as registered Secret documents.