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- III. Present and Prospective Intelligence Requirements for photographic information and Photo Chips at the National, Departmental and Operational level.

QUESTIONS:

What are the needs of various users, both present and potential, for photographic information (imagery) in general?

What are the present and potential requirements for photographic information in Photo Chip form?

What are the varying requirements for technical characteristics of any Photo Chip systems, such as, minimum and maximums for systems scales, installation area size, quality and the like?

What are the critical differences (to intelligence user) in these areas, and the reasons there for?

What are the advantages, disadvantages of the Photo Chip form?

Photo Chip standardization?

Who are the originators?

Who are the users; prospective users?

Suppliers; distribution?

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OSD AND USAF REVIEW COMPLETED

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**C O N F I D E N T I A L**

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SPECIAL ISCIG COMMITTEE  
FOR STANDARDIZATION OF PLANS AND DEVICES FOR  
STORAGE AND RETRIEVAL OF RECONNAISSANCE MATERIALS

COMMITTEE REPORT

15 June 1963

Group 3  
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SPECIAL ISCIG COMMITTEE FOR STANDARDIZATION OF PLANS AND  
DEVICES FOR STORAGE AND RETRIEVAL OF RECONNAISSANCE MATERIALS

SUBJECT: Committee Report

TO: Chairman, Interservice Coordinating and Integrating Group  
for TARABS  
ATTN: Colonel D. F. Shea  
Room 4E343, Pentagon  
Washington 25, D. C.

1. Reference: ISCIG letter, subject: Standardized Reconnaissance Data Marking and Material Handling Systems, 16 April 1963 (Inclosure 1).
2. The Committee established by the referenced letter convened on 7 May 1963, with membership and observer participants as shown on Inclosure 2. Committee deliberations continued through 14 June 1963. On 24 May 1963, the Committee submitted an Interim Report as specified by the Deputy Chairman, ISCIG. On 29 May 1963, the Committee Chairman and two members met with the ISCIG to discuss the Interim Report, to forecast further progress on the solution to the problem, and to obtain guidance. The ISCIG established 15 June 1963 as the date for submission of the Committee final report.
3. The activities and recommendations of the Committee are summarized below. Complete documentation of the Committee Report is in preparation and will be forwarded by 28 June 1963.
4. During the first part of the deliberations, the Committee heard briefings on, or investigated, numerous existing or developmental systems, procedures, and devices for the storage and retrieval of reconnaissance materials (see Inclosure 3 for list of briefings). Committee investigations were concluded on 17 May. From that date, the Committee deliberated in executive session. Service requirements were discussed. Advantages and disadvantages of existing systems were considered.

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5. In its deliberations the Committee agreed that reconnaissance material holdings fall into two general categories: First, the bulk archival holdings, consisting primarily of roll film; second, the photo interpretation (PI) data base, or the immediate operational file, consisting of selected coverage, PI keys, maps, and related data. The Committee considers that on the first type of file or library, that no action is required of this Committee since current plans and developments are adequate for the standardization of storage and retrieval of such holdings. On the second, or data base-type file, the Committee agreed that a standardized film "chip" system is required, and to this point the Committee addressed its primary efforts.

6. The Committee agreed on the general conditions and reservations under which the development of the standard "chip" system could proceed. General statements were adopted to provide for an orderly development of standard plans and devices without jeopardizing existing operational capabilities. These statements are as follows:

a. The "standard chip" does not fulfill all requirements of all Services, but represents the best common denominator on which unanimous agreement could be reached.

b. Adoption of the "standard chip", and development of devices to prepare and otherwise utilize it, in no way shall be permitted to degrade the operational capability of existing systems, such as the Navy Integrated Operational Intelligence System (IOIS), the Air Force Advanced Photogrammetric Targeting System, and the Army Target Map Coordinator Locator System.

c. Development of a "standard chip" system shall not be permitted to interfere with or degrade programmed developments and improvement of the existing operational systems.

d. Research and development to achieve standardization must be initiated early in FY 1964.

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e. An orderly and expeditious transition to a "standard chip" system is desirable; however, such transition must not degrade existing and programmed capabilities. Therefore, full integration into existing systems, or the adoption of the "standard chip" system as a replacement for existing systems, shall not be mandatory before 1967.

f. Initially, color separation "micromap chips" (masters), used exclusively by mapping and charting agencies for the sole purpose of map and chart production, shall not be included in the "standard chip" system. Other full color or monochrome "map chips" should be included as part of the "standard chip" system.

7. The Committee unanimously agreed that a "standard chip" should be adopted by the Services, and that the characteristics of the "standard chip" should be as follows: (See diagram, Inclosure 4).

a. Composition: Film transparency of highest practicable quality. Normal exchange shall be first positive (i.e., made from the original). Should operational necessity dictate otherwise, the transparency generation shall be as near the original as possible.

b. Emulsions: To provide for:

- (1) Continuous tone high quality reproduction
- (2) Line and half-tone reproduction
- (3) Color positive or negative reproduction.

c. Thickness: To assure optimum quality, stability, and handling characteristics. Any compromise of characteristics should favor quality. The optimum film thickness must be determined by research, development, test, and evaluation.

d. Exterior dimensions: 70mm x 100mm.

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e. Interior elements:

- (1) Accession number
- (2) Image area
- (3) Classification
- (4) Information area
- (5) Machine readable or other growth area
- (6) Border

8. The Committee recognizes that there are two necessary internal variations to the "standard chip" as follows: (See page 2, Inclosure 4).

a. Special requirement: When the image is a map, and the state-of-the-art permits only a minimum reduction, the image area may extend from the left border, with dimensions as large as 64mm x 85mm.

b. Quick reaction chip: May be cut directly from film or prepared by the most expeditious means, to meet exceptional operational requirements. The accession number must be added in the appropriate area.

9. The Committee considers that full use of the "standard chip" system will require development of a family (or families) of devices to produce, handle, and utilize the "chips". Required equipments include printers (contact, reduction, and enlargement), chip cutters, storage and retrieval devices (manual and automatic), viewers (direct, comparison, stereo, rear projection), and reproduction devices. Separate families of equipments will be required for use at tactical field level and at the higher echelon tactical levels. Where possible, these equipments should be common to all of the Services.

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10. To fully exploit the potential advantages of the "standard chip", as indicated in Inclosure 5, consideration should be given to including a larger portion of the tactical intelligence data base on "chips". The "chip" portion may include imagery, maps, intelligence reports, PI keys, and other tactical intelligence information. Full utilization of the "chip" portion of the data base will be determined by the individual Service or agency; however, common items should be produced by a single Service or agency for distribution to all users. Responsibility for the production of common items may be assigned and accomplished in the same manner as for target material production.

11. The Committee agreed to the following plans for the development and utilization of a "standard chip" systems:

a. Research and development of the equipment outlined in paragraph 9, above, should be undertaken in FY 1964. There should be full exploitation of the experience and capabilities gained in the development of "chip" storage and retrieval sub-systems. Priority emphasis should be given to the chip-making equipment.

b. As soon as an agency has a routine production capability, it shall produce and disseminate "standard chips". The subject matter to be disseminated shall be in accordance with interservice agreements. In the interim, before standardized handling equipment is developed, "standard chips" may be mounted if required for use in existing systems.

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12. The Committee agreed that a task group should be established under the authority of the ISCIG as the mechanism for implementation of equipment standardization. Direct communication between members of the task group shall be authorized. This task group, to be comprised of a technical and an operational member from each Service and the Defense Intelligence Agency, shall be charged with and empowered to perform the following functions:

a. Review technical details of existing and planned programs for imagery Storage and Retrieval.

b. Recommend modifications to existing and planned programs in order to achieve a fully coordinated program. (In those instances where commonality of equipment cannot be achieved, justification must be provided by the Service having the unique requirements).

c. Recommend assignment of responsibility for individual equipment developments. Assignment will include the assumption of responsibility for insuring that objectives of the coordinated program, as it is related to the specific equipment being developed, are achieved. Other Services must be informed and consulted regarding any major decision during the course of the development. This responsibility shall include, but not be limited to, the following:

(1) Approval of technical specifications, technical procurement data, design and test plans.

(2) Evaluation of contractors' proposals.

(3) Distribution of all reports to task group members.

(4) Submission of any significant change(s) in the development effort to task group members for review.

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13. The Committee recommends that:

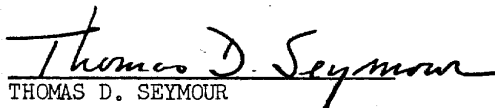
a. A "standard chip" be adopted subject to the conditions and reservations stated in paragraph 6.


b. The "standard chip" characteristics be as described in paragraph

7.

c. The orderly development of the devices listed in paragraph 9 be initiated in FY 1964.

d. The ISCIG implement and coordinate the plans and procedures outlined in paragraphs 10, 11, and 12.

  
THOMAS D. SEYMOUR  
GS-14, U. S. Navy  
Alternate Recorder

  
A. D. BARRY  
Lt Col, U. S. Army  
Chairman

5 Incl

1. Cy of Ltr Establishing Committee
2. List of Committee Membership and  
Observer Participants
3. List of Storage and Retrieval  
System Briefings
4. Recommended "Standard Chip"  
Format
5. List of Advantages of the Film  
Chip

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SPECIAL ISCIIG COMMITTEE FOR STANDARDIZATION OF PLANS AND  
DEVICES FOR STORAGE AND RETRIEVAL OF RECONNAISSANCE MATERIALS

COPY OF LETTER ESTABLISHING THE COMMITTEE

DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS UNITED STATES AIR FORCE  
WASHINGTON 25, D.C.

REPLY TO  
ATTN OF: AFRAEA

16 APR 19

SUBJECT: Standardized Reconnaissance Data Marking and Material  
Handling Systems

TO: Chief of Staff, U. S. Army  
Chief of Naval Operations  
Chief of Staff, U. S. Air Force  
Commandant, U. S. Marine Corps  
Director, Defense Intelligence Agency

1. As recommended in Mr. Gilpatric's memorandum, same subject, dated 26 March 1963, the Interservice Coordinating and Integrating Group (ISCIIG) for Tactical Air Reconnaissance and Aerial Battlefield Surveillance (TARABS) is acting to carry out the task established by OSD.
2. The ISCIIG, on 12 April 1963, agreed to:
  - a. Assign to the Navy responsibility for taking the necessary actions to standardize the binary coded decimal system among the Services, as directed by OSD.
  - b. Establish a special committee, to be chaired by the Army, to determine and recommend those actions which are necessary to achieve standardization of plans and devices for the storage and retrieval of reconnaissance materials.
3. Each of the Services and DIA are requested to designate two representatives to serve as members of the ISCIIG special committee. The Army is also requested to provide necessary administrative support for the committee.
4. OSD has established 1 June 1963 as the date for final submission on the necessary actions to achieve the desired standardization. Rapid response on the part of all concerned will be necessary if this date is to be met. You are requested, therefore, to notify the Chairman, ISCIIG as soon as possible of the names and organizations of your designees for membership on the special committee.

/s/A. J. KINNEY  
A. J. KINNEY  
Brigadier General, USAF  
Chairman, Interservice Coordinating  
and Integrating Group, TARABS

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Ltr dtd 26 Mar 63

INCLOSURE 1

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SPECIAL ISCIG COMMITTEE FOR STANDARDIZATION OF PLANS AND  
DEVICES FOR STORAGE AND RETRIEVAL OF RECONNAISSANCE MATERIALS

COMMITTEE MEMBERSHIP AND OBSERVER PARTICIPANTS

MEMBERS

ARMY:

A. D. Barry, Lt Col, USA, Chairman  
US Army Combat Developments Command  
Intelligence Agency

Alvin Zarin, GS-15, USA  
US Army Electronics Research &  
Development Laboratory (SELRA/SSA)

NAVY:

Frank N. Hofer, LCDR, USN  
Office of Naval Intelligence (ONI)

Jack H. Pickup, GS-14, USN, Recorder 7 May - 7 Jun 63  
US Naval Photographic Interpretation Center

Thomas D. Seymour, GS-14, USN, Alternate Recorder 10 - 15 Jun 63  
US Naval Photographic Interpretation Center

AIR FORCE:

Thomas H. Scott, L/Col, USAF 7 - 31 May 63  
Office, Asst Chief of Staff Intelligence 10 - 15 Jun 63  
Hq, US Air Force

Howard Davis, GS-15, USAF  
Rome Air Development Center  
Griffis Air Force Base

W. J. Chappas, L/Col, USAF 3 - 7 Jun 63  
Office, Asst Chief of Staff Intelligence  
Hq, US Air Force

MARINE CORPS:

Russell A. Andres, Lt Col, USMC 7 - 31 May 63  
Hq, US Marine Corps, G2(AO2F)

Clifford F. Blankenship, Lt Col, USMC 3 - 15 Jun 63  
Hq, US Marine Corps, G2(AO2D)

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DEFENSE INTELLIGENCE AGENCY:

STAT [redacted] CDR, USN  
Defense Intelligence Agency (DIAMS-1)

STAT [redacted] L/Col, USAF 7 - 24 May 63  
Defense Intelligence Agency (DIAMC)

STAT [redacted] Maj, USAF  
Defense Intelligence Agency (DIARD)

OBSERVER PARTICIPANTS

James F. Bloom, Maj, USA 8 May - 10 Jun 6  
Office, Chief of Engineers  
(Mapping & Geodesy Div), Dept of the Army

Thomas D. Seymour, GS-14, USN 3 - 7 Jun 63  
US Naval Photographic Interpretation Center

STAT [redacted] GS-13, DIA 14 May - 15 Jun  
Defense Intelligence Agency (DIAP)

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LIST OF STORAGE AND RETRIEVAL SYSTEM BRIEFINGS

1. USAF OSR 406 (Project 6506). The Image Interpretation Cell.
2. USAF SCRAM Equipment.
3. USN Integrated Operational Intelligence System.
4. USAF ACIC Det. #1, Automated Index to the Archival Film Files.
5. USN Automatic "Chip" Handling System
6. DIA Unifile Photo Interpretation Reporting System (UPIR).
7. US Army Corps of Engineers' Target Map Coordinator Locator System  
(MICROMAP).
8. USAF ACIC Automated Photogrammetric Targeting System (Project 5569).
9. USAF Foreign Technology Division FOTECH System.
10. Data Processing Support for Photo Interpretation Activities in  
USAF Reconnaissance Technical Squadrons.
11. Intelligence Subsystem to the U. S. Army Command Control Information  
System (CCIS-70).
12. U. S. Army Tactical Imagery Interpretation Facility, (TIIF).
13. Minicard System.
14. Walnut System.

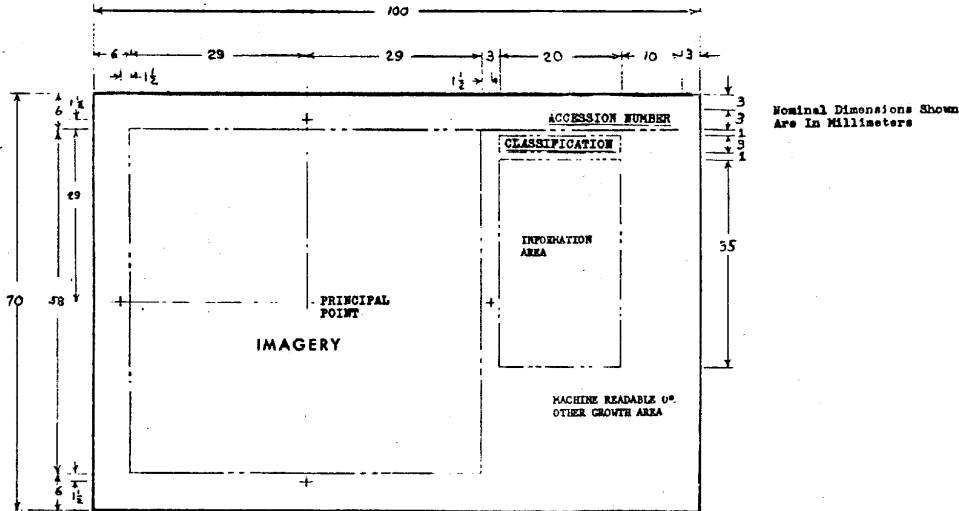
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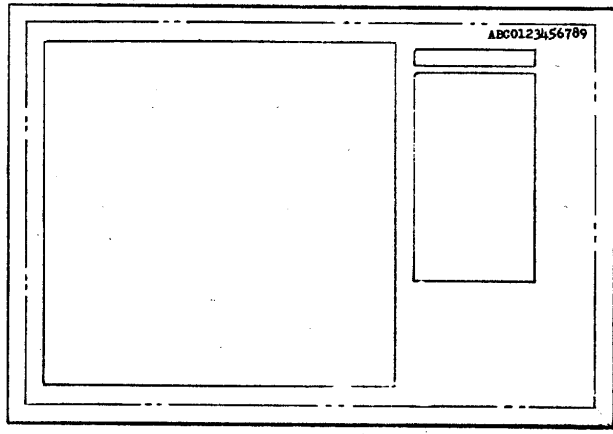
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RECOMMENDED STANDARD CHIP FORMAT



**STANDARD CHIP**



This illustrates the format when a 3mm border  
all around is utilized for mounting.

INCLOSURE 4 (Page 1 of 3)

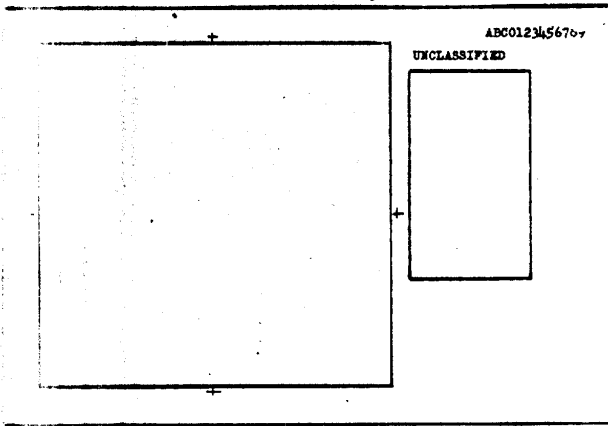
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STANDARD CHIP, SPECIAL REQUIREMENT AND QUICK REACTION

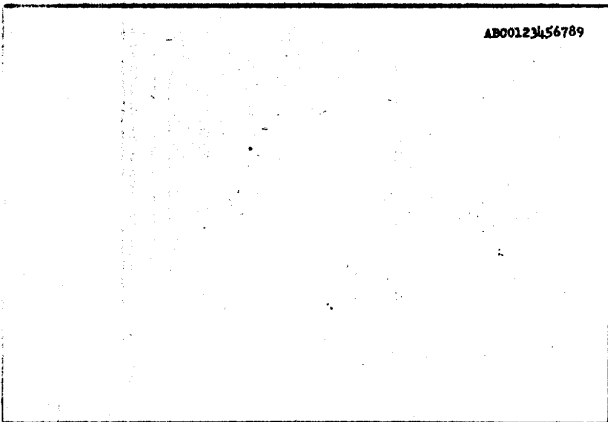
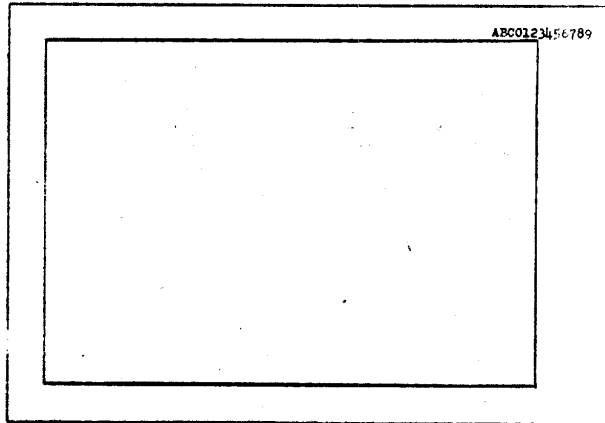


## MAP CHIP

This full color CHIP is used for maps or charts.

## STANDARD CHIP

This standard CHIP is made by a composite  
photographic printing or copying process.



## QUICK REACTION CHIP

This "Quick Reaction" CHIP may be cut directly from film, or prepared  
by the most expeditious means, to meet exceptional operational re-  
quirements. The accession number is physically added to the film base.

INCLOSURE 4 (Page 2 of 3)

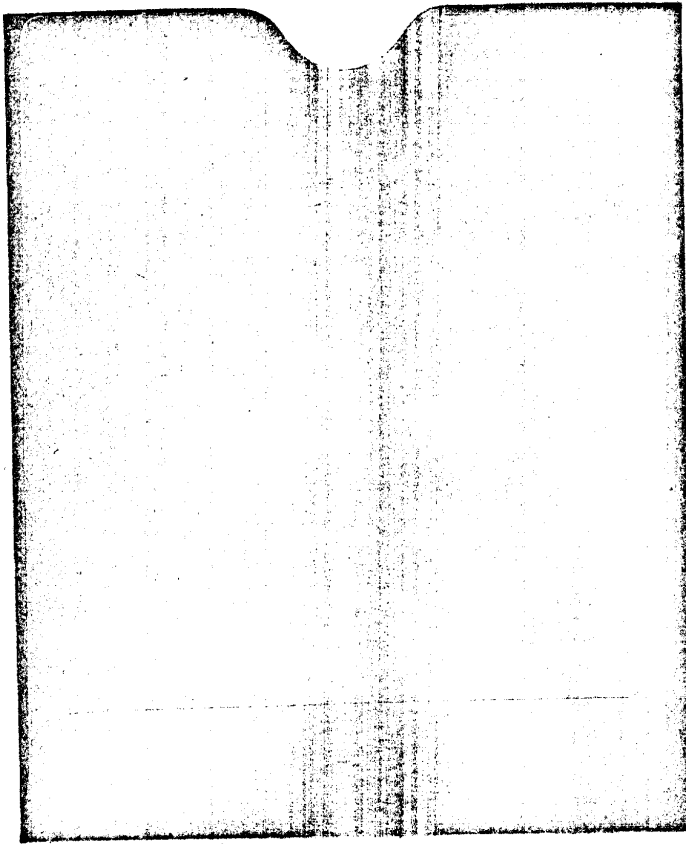
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EXAMPLES OF STANDARD CHIPS

Envelope contains three (3) chips which closely approximate the "standard chip" in size and format. The special requirement chip (map chip) shown in black and white may also be in full color. The quick reaction chip may be replaced by the standard chip as operational requirements permit. The need for improvement in quality is self-evident.



INCLOSURE 4 (Page 3 of 3)

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SOME ADVANTAGES OF THE FILM "CHIP"

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1. Film chips can be handled, stored, viewed, and transported more easily than an entire roll of film.
  2. [redacted] records (photo [redacted] of targets can be generated on film chips with identical orientation for comparison purposes.
  3. A multitude of formats can be converted to a single format for purposes of magnification, stereo-viewing, mensuration, and storage.
  4. Maps, PI keys, and target base material for specific areas of interest can be made available in chip form for more efficient storage, retrieval, and transportation.
  5. Reports generated with target coverage can be included in the film chip for increased efficiency and compact storage.
  6. Use of film chips eliminates the degradation of the original imagery which results from searching the entire roll for specific images.
  7. A film chip system permits many interpreters simultaneous use of imagery from a single roll of film.
  8. Use of film chips facilitates updating and purging the files.
  9. In the great majority of non-sequential handling operations, film chips can be handled far more efficiently and rapidly than can roll film.
  10. Use of film chips permits the accumulation of comparative coverage in an expeditious and efficient manner.

INCLOSURE 5

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