

METRIC

MIL-G-89103

6 MAY 1994

**MILITARY SPECIFICATION  
GRIDDED INSTALLATION PHOTOGRAPHS (GIP)**

**This specification is approved for use by all  
Departments and Agencies of the Department of Defense.**

1. SCOPE

1.1 Scope. These specifications are for use by all Department of Defense activities which have authorization to validate Mapping, Charting and Geodesy requirements and submit production requests.

1.2 Purpose. These specifications are designed to provide guidelines for the preparation, acquisition, handling, and destruction of hardcopy Gridded Installation Photographs.

1.3 Security. These specifications are UNCLASSIFIED. Products generated from these specifications may be classified as high as "SECRET". Destruction notice for unclassified, distribution limited documents is: "Destroy by any method that will prevent disclosure of contents or reconstruction of this document."

2. APPLICABLE DOCUMENTS

This section is not applicable to this specification.

**Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Director, Defense Mapping Agency, ATTN: PR, ST A-13, 8613 Lee Highway, Fairfax, VA, 22031-2137 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.**

AMSC N/A

AREA MCGT

**DISTRIBUTION STATEMENT A. Not approved for public release; distribution is limited.**

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## 3. REQUIREMENTS

3.1 First article. When specified (see 6.2), a sample shall be subjected to first article inspection (see 6.3) in accordance with 4.3.

3.2 General. This product has been designed to support highly localized ground, sea, and air operations where terrain and other features must be compensated for in order to perform the specialized mission objective. The GIP is not designed as a Target Materials product.

3.3 Accuracy.

3.3.1 Horizontal. Will be stated for each GIP based upon the value derived for the site reference point (RP). Accuracies will be stated in circular error (CE) (90 percent assurance).

3.3.2 Vertical. Will be stated for each GIP and based upon the ground elevation at the RP.

3.4 Product identifier. Each GIP will be identified by site name, country code, coordinates, stock number, and BE number, if available.

3.5 Product attributes.

3.5.1 Production. The GIP will be produced by orthorectification of the most recent image based source materials available to DMA.

3.5.2 Source material date. Source materials older than three years will not be used. The GIP should be evaluated every three years to insure currency. More frequent maintenance updates identified by originating commands will require submission via JCS Memorandum of Policy (MOP) 31, Submitting and assigning priorities to Requirements for Mapping, Charting, and Geodesy (MC&G) Support.

3.5.3 Scale. There are ten scales as follows:

SCALE	DISTANCE ALONG EACH SIDE			SM	1 CM GRID SPACING METERS
	FT	M	NM		
1/1,000	787	240	0.130	0.149	10
1/2,000	1,575	480	0.259	0.298	20
1/3,000	2,363	720	0.389	0.447	30
1/4,000	3,150	960	0.518	0.597	40

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1/5,000	3,937	1,200	0.648	0.746	50
1/6,000	4,724	1,440	0.777	0.895	60
1/7,000	5,512	1,680	0.907	1.044	70
1/8,000	6,299	1,920	1.036	1.193	80
SCALE		DISTANCE ALONG EACH SIDE			1 CM GRID SPACING
	FT	M	NM	SM	METERS
1/9,000	7,087	2,160	1.166	1.342	90
1/10,000	7,874	2,400	1.295	1.491	100

3.5.4 Grid spacing. One centimeter square. See 3.5.3 for formulated distance values.

3.5.5 Overprinted grid. Atlas format: vertical axis, alpha characters ascending; horizontal axis, numerics increasing left to right. Linear distance values in meters, see Appendix A, Style Sheet.

3.5.6 Color.

3.5.6.1 Graphic face. Black; background. White; grid, letters, icons, numbers and labeling.

3.5.6.2 Margin. White background. Black; text and symbols.

3.6 Margin information. See Appendix A, Style Sheet.

a. Classification.

b. Site name, country code.

c. Corner coordinates and corner location graphic.

d. Site coordinates and elevation (feet and meters).

e. Datum and accuracy statements.

f. BE Number.

g. Stock number. Each sheet produced will have its own unique stock number. When used alone the stock number, or list of stock numbers, is unclassified.

Column	Explanation
1-2	Program. GP, Gridded Photographs
3-5	Product. GIP, Gridded Installation Photograph
6	Producer code. "A" DMA Aerospace Center

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- 7-11 Sequential stock (site) number (00000-99999)
- 12-13 Sheet numbers, a site may have multiple sheets
- 14 Slash (/)
- 15 Edition number (1 - 9)

h. Date of source.

i. Scale and Grid Interval and North arrow.

j. Production and classification caveats.

3.7 Evaluation procedures. Each GIP released will have been built to the originators selected area parameters. Determination that feature representation would have been enhanced at another scale shall not constitute a quality error on the part of DMA. Mutually agreed to sheet quality errors will be corrected by DMA at a priority second only to nationally designated crisis initial support production.

3.8 Size. The outside dimensions of the GIP are 10 inches x 12 inches (25.40 X 30.48 centimeters) and the graphic face is 9.45 inches x 9.45 inches (24 X 24 centimeters).

3.9 Reproduction.

a. Reproduction of the GIP for the command to support its operational requirement will be accomplished by the originating command.

b. Users, other than the originating command, may obtain photographic print copies from DMA after written authorized, if required from the originating command, is received, otherwise through routine MC&G acquisition procedures from DMA Combat Support Center (DMACSC).

3.10 Distribution. The initial production package provided to the requesting user will contain a duplicate positive and negative of the rectified image as well as a duplicate positive and negative of the final product. Additionally all requested photographic print copies will be forwarded to the original requestor for the commands distribution control. Master positives and negatives will be retained at DMA, shelf stock for those GIPs authorized for release will be maintained by DMACSC.

3.11 Product listing.

a. Availability of GIPs will be depicted in a "Gridded Photo (GP) Listing" produced approximately monthly by DMA

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Aerospace Center (DMAAC) and available for distribution through DMACSC. The GP Listing will include the site name, stock number, country code, geographic area coverage by latitude/longitude, BE number (if available), production date, image source date, elevation of site, horizontal and vertical accuracy and number of sheets needed to cover each site. Each listing will contain two complete text sections; alphabetical by site name and numerical by BE number.

b. Upon migration of the inventory listings to a standard DMA catalog (TBD), the GP Listing will cease, and all recipients of DMA catalogs who have requested that publication containing Gridded Photos will have the current inventory.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements; however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.2 Classification of inspection. The inspection requirements specified herein are classified as follows:

- a. Visual examination (see 4.4).
- b. Review of construction records (see 4.5).

4.3 First article inspection. When a first article inspection is required (see 3.1 and 6.2), it shall be examined

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for defects specified in 4.4 and the construction record reviewed for compliance with 4.5.

4.4 Visual examination. The GIP shall be examined for defects and errors as specified by the contracting officer or by internal DMA standard procedures. Required corrections shall be made to manuscripts, drafting positives, and reproducible material before the GIP is sent to the next production stage. Defects detected during the inspection of the printed "catch copy" shall be evaluated by DMA for criticality, and suitable corrective action.

4.5 Review of construction records. Records about the construction of the GIP shall be maintained. The records shall document sources, decisions regarding reconciliation of conflicting data, etc. GIP records/construction histories shall be reviewed concurrently with visual examinations (see 4.4) to ensure that proper cartographic procedures have been followed.

4.6 Customer review. Users finding errors within the product which would impact successful conduct of operations or hazard US military personnel should notify HQ DMA PR by message, detailing sheet stock number, error, method of error detection/measurement, and explanation of correction if necessary for clarity. Less critical errors should be submitted by letter to HQ DMA PR, copy to command and service MC&G offices.

## 5. PACKAGING

5.1 General. Hard copy distribution will comply with standard packaging guidelines: interior package tape sealed and marked showing classification, sender/receiver identification and addresses; exterior package tape sealed and addressed for registered mailing.

5.2 Packaging. Packaging shall be level C (see 6.2) unless otherwise specified. This packaging provides minimum protection, and it is needed to protect materiel under known favorable conditions. The following criteria determine the requirements for this degree of protection:

- a. Use or consumption of the item at the first destination.
- b. Ability to withstand known conditions during the limited transportation cycle.
- c. Ability to withstand known environmental conditions during intransit delays and temporary warehousing for a maximum of 18 months.

5.3 Marking. In addition to any special markings required

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by the contract or order, markings shall be in accordance with requirements of MIL-STD-129 for military levels of protection.

## 6. NOTES

6.1 Intended use. The GIP is an image based product of a specified area of interest that is orthorectified to reduce equipment and terrain distortions. It is produced at ten scales (see 3.5.3) and designed to provide a quick method of determining metric distance and relative location about a World Geodetic System 84 (WGS-84) reference point/feature.

6.2 Acquisition requirements. Acquisition documents must specify the following:

- a. Title, number, and date of this specification.
- b. When first article is required (see 3.1, 4.3, and 6.3).
- c. Levels of packaging (see 5.2).

6.3 First article. When a first article is required, it shall be inspected and approved under appropriate provisions of FAR 52.209. The contracting officer shall specify the appropriate type of first article and the number of units to be furnished. The contracting officer shall also include specific instructions in acquisition documents regarding arrangements for selection, inspection, and approval of the first article.

6.4 Acronyms/definitions.

- a. BE number - Basic Encyclopedia number; site point identification number.
- b. DMA - Defense Mapping Agency, HQ, Fairfax, VA.
- c. DMAAC - Defense Mapping Agency Aerospace Center, St. Louis, MO.
- d. DMACSC - Defense Mapping Agency Combat Support Center, Bethesda, MD.
- e. GP - Gridded Photographs.
- f. GIP - Gridded Installation Photographs.
- g. MC&G - Mapping, Charting and Geodesy.

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h. MOP 31 - Memorandum of Policy from the Joint Staff Operation (J3) directorate establishing requirements priorities.

i. WGS - World Geodetic System. Parameters describing the size and shape of the Earth.

6.5 International standardization agreements. This section is not applicable to this specification.

6.5.1 International Standardization Agreements (STANAGs). This section is not applicable to this specification.

6.5.2 Quadripartite Standardization Agreements (QSTAGs). This section is not applicable to this specification.

6.5.3 Air Standardization Coordinating Committee Agreements (ASCC). This section is not applicable to this specification.

6.5.4 International MC&G Agreements. This section is not applicable to this specification.

6.5.5 Executive Orders. This section is not applicable to this specification.

6.5.6 InterAgency Agreements. This section is not applicable to this specification.

6.5.7 Other Documentation. This section is not applicable to this specification.

6.6 Subject term (key word) listing.

Gridded photograph  
Gridded installation photographs  
Image based products  
Target materials



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APPENDIX

GIP STYLE SHEET

10. SCOPE

10.1 Scope. This appendix provides a graphic illustration of the design, composition, and location of the margin and face data on a GIP product. This appendix is a mandatory part of the specification. The information contained herein is intended for compliance.

20. APPLICABLE DOCUMENTS

This section is not applicable to this Appendix.

30. GIP STYLE SHEET

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CONCLUDING MATERIAL

Custodian:  
DMA - MP

Preparing activity:  
DMA - MP

Review activities:  
Air Force - 09  
Army - PO  
Navy - NO, MC

(project MCGT-0051)