METRIC

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MILITARY STANDARD

SYMBOLS FOR ARMY AIR DEFENSE SYSTEM DISPLAYS (METRIC)

AMSC N/A

AREA HFAC

FOREWORD

1. This military standard is approved for use by the U.S. Army Missile Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, U.S. Army Missile Command, ATTN: AMSMI-RD-SE-TD-ST, Redstone Arsenal, AL 35898-5270, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) at the end of this document or by letter.

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FIGURES

TABLES

1 SCOPE

1 1 Scope This standard prescribes the physical characteristics of space, air, land, surface, and subsurface track symbols, and associated alphanumeric information, for U.S Army air defense displays which are generated by electronic, optic, or infrared technology and which presents information in real time or near-real time.

1 2 Purpose Requirements are specified herein for the selection and depiction of symbols which provide U S Army air defense personnel with air track, mission, and status information

1 3 Application. This standard applies to the design of U S Army air defense system displays and shall be tailored as required to meet individual system requirements. The symbols presented herein are intended for application to high quality, calligraphically written cathode-ray tube displays. This standard may be applied to other flat-panel type displays if the provisions are modified to ensure that image quality provides legible symbols, modifiers, and alphanumerics The symbology specified in this standard will not be applied retroactively to existing systems, however, any system preplanned product improvements and major modifications shall implement the requirements of this standard

2 APPLICABLE DOCUMENTS

2 1 Government documents

2 1.1 Specifications, standards and handbooks The following specifications, standards, and handbooks form a part of this document to the extent specified herein Unless otherwise specified, the issues of these documents are those listed in the issues of the Department of Defense Index of Specifications and Standards (DODISS) and supplements thereto, cited in the solicitation (see 6 2)

STANDARDS

MILITARY

MIL-STD-1472 Human Engineering Design Criteria for Military Systems, Equipment and Facilities

MIL-STD-1908 Definitions of Human Factors Terms

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094)

2 1 2 Other government documents, drawings and publications The following other government documents, drawings and publications form a part of this document to the extent specified herein Unless otherwise specified, the issues are those cited in the solicitation

FM 101-5-1 Operational Terms and Symbols

(Application for copies should be addressed to contracting activity)

2 2 Order of precedence In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained

3 DEFINITIONS

Key terms used by this standard are defined by MIL-STD-1908

4 GENERAL REQUIREMENTS

4.1 Standardization Symbols used in U S. Army air defense systems to include the air defense displays used at the division air management element, shall be uniform for common functions where symbols are used to display functions for the soldier-machine interface

4.2 Basic symbol design Generally, track symbol shapes shall use open rather than filled structures (e.g , ○ rather than ●) to provide space for effective integration of modifiers

5 DETAIL REQUIREMENTS

5 1 Symbol coding Where visual discrimination between signals may be critical to system performance, symbols shall be appropriately coded Coding techniques shall include shape, line structure, modifier, blinking, reverse video, and color A symbol luminance of not less than 0 35 cd/m^2 and a luminance contrast not less than 0 88 should be maintained Symbols should be designed for use from a viewing distance of not more than 0 5 m

5.1.1 Symbol shapes and modifiers

5 1.1 1 Basic air tracks and landmarks.

5 1 1 1 1 Symbol shape. Basic air track and landmark symbol shapes shall conform to Table I

5 1 1 1 2 Symbol modifiers Standard modifiers to air track symbols shall conform to Table II Modifiers to air track symbols include multiple tracks, engageable/unengageable status, and speed and heading vectors A common meaning and location discipline shall be used across display modes and symbol modifier applications

5 1 1.1 3 Symbol and modifier activation No more than two sequential key actions shall be required to activate basic classes of symbols and symbol modifier categories

5 1 1 2 Ground and map symbols Ground and map symbols shall conform to Table III Ground and map symbols not depicted by Table III shall conform to the requirements of FM-101-5-1

5 1 1 3 Special symbols Special symbols associated with the display of air defense symbols and tabular data shall conform to Table IV

5 1 2 Line structures Not more than six different line structures shall be used to display battlefield geometry Those selected shall allow for maximum contrast and discrimination The line structures shall conform to Figure 1 Line structure utilization should conform to the guidelines in FM-101-5-1

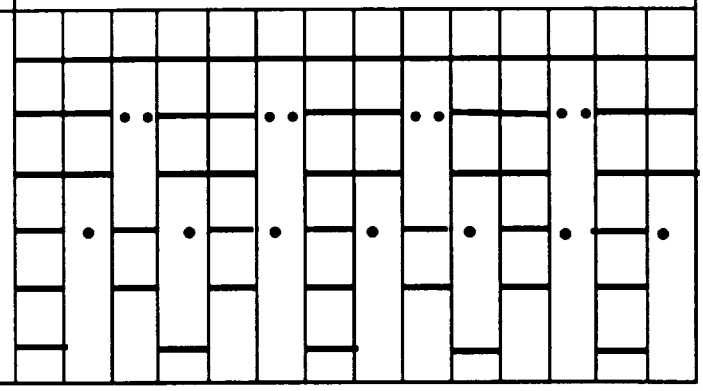
LINE CODING	EXAMPLES AND APPROXIMATE SPACINGS
SOLID	
LONG DASH - TWO DOTS	
LONG DASH - SHORT SPACE	
SHORT DASH - ONE DOT	
SHORT DASH - SHORT SPACE	
SHORT DASH - LONG SPACE	

FIGURE 1. **Line structure coding**

5 1.3 Blinking.

5 1 3 1 Symbols and modifiers A capability for symbols and associated modifiers to blink in response to certain conditions and to discontinue blinking when the conditions no longer exist, or when appropriate operator action is taken, shall be provided. Only the symbol and associated modifiers shall blink. The alphanumeric data associated with the symbol shall not blink.

5 1 3 2 Rate No more than two blink rates shall be used Where only one rate is used, the rate shall be not less than 4 nor more than 5 Hz Where two rates are used, the second rate shall be not less than 1 nor more than 2 Hz

5 1 3 3 Application The higher blink rate shall normally be used as the highest priority track indicator on tracks which require urgent operator attention (e g., track recommended for engagement by the system, identification conflict, pop-up engageable hostiles) Only one symbol at a time shall be blinked at the nigher rate The lower blink rate, if required, shall be used to draw the operator's attention to a single class of less urgent targets (e g , a new hostile or unknown track entering the operator's area of interest) Only one symbol at a time shall be blinked at the lower rate.

5 1 4 Hooking Hooking action may be displayed by reverse video, brackets, or box Irrespective of hooking method, only one symbol at a time shall be capable of being hooked.

5 1 4 1 Reverse video If the capability exists, then the ability for symbols and their associated modifiers to interchange luminance values between the background display and the symbology depicted (reverse video) shall be provided For Example A symbol that is normally depicted as a light shape on a dark background would be changed to a dark shape on light background

5 1 4.1 1 Application Reverse video shall be used to indicate that a symbol has been selected by the operator to receive further action (e g , selected/hooked to access more information on an air track) The symbol shall return to the normal contrast values when the conditions no longer exist or upon termination of the action

5.1.4 1.2 Shape When reverse video is used, the display area affected shall be in the shape of a square surrounding the basic symbol and associated modifiers on all sides by at least one stroke width of a line

5.1 4.2 Brackets. If a capability to depict symbology in reverse video is not provided, brackets ([]) shall be used as an alternative to indicate that a symbol has been selected

5.1.4 3 Box A modifier in the snape of a square box surrounding the basic symbol as stated in 5 1 4 1 2 is also acceptable as an alternative to reverse video or brackets

5 1 5 Color.

5.1.5.1 Use. In order to maintain monochrome CRT compatibility and enchance the primary shape coding, color shall be used as a redundant coding scheme To maintain good color perception color symbol luminance should be at least 3 cd/m^2 A luminance ratio of not less than 5 1 and not more than 10 1 should be maintained for color displays To maintain the integrity of display symbol color coding and minimize adverse visual effects that might result from red (dark adapted state) or blue-green lighting, white ambient illumination of the crew workspace should be used.

5.1.5.2 Coding scheme. The color specified refers to a class of hues, not to a specific wavelength. The hues used should maximize the color contrast The display should have a dark background to maximize the visibility and discrimination of the colors. Application of color to air defense symbology should conform to the following

a RED—hostile ground units and air track symbols, battlefield geometry representing danger zones, and enemy targets

b YELLOW—unknown air track symbology and nuclear, biological, or chemical contamination areas.

c. GREEN—friendly ground units, air track symbols, and safe zones

d WHITE—alphanumeric data, status information, and battlefield geometry

5 1 6 Symbol overlap. When symbols used to depict zones or areas overlap, the underlying, lower priority areas which are covered by the highest priority area shall use a dashed-line structure. For track symbols which overlap, no change in line structure or blanking of lower priority track symbols shall be allowed Preservation of all track symbols is essential so that the operator can realize that multiple tracks exist. A capability should be provided to allow an operator to zoom-in or change scale in order to gain more separation of track symbols

5 2 Size

5 2 1 Symbol size The following equation shall be used to calculate the size of symbols and alphanumerics specified below·

Symbol Height = TANGENT (viewing angle subtended) x (viewing distance)

5 2 1 1 Local air tracks and ground unit symbology. The major dimension of a single local air track symbol shall subtend a visual angle of not less than 7 3 mrad of arc when measured from the operator's eye in its normal viewing location For example, at the minimum recommended viewing distance of 500 mm, a single friendly air track should have a diameter of 3 8 mm (see Figure 2) The horizontal bar denoting rotary wing aircraft shall have the same length as the width of a single air track symbol The values, stated for local and remote (paragraph 5 2 1 2) tracks, are for symbol luminances which are above 0 35 cd/m^2 and symbol-to-background luminance contrast of not less than 0 88

5 2 1 2 Remote air tracks and alphanumeric data The major dimension of the basic air track symbol for a single remote track and the height of alphanumeric characters shall subtend a visual angle of not less than 4 7 mrad of arc when measured from the operator's eye in its normal viewing location When a system is receiving only remote track information, an optional capability should be provided to automatically increase the size of the remote track symbols to the size of the local track symbols Also, when remote tracks coincide with local tracks, only the local track symbol shall be displayed

5 2 1 3 Multiple targets The symbol formed by the inner line shall be the same size as the single target symbol The outer line shall be separated from the inner line by no less than one stroke width of the line

5 2 1 4 Landmark symbols The major dimension of the landmark symbols shall subtend a visual angle of not less than 5 8 mrad of arc when measured from the operator's eye in its normal viewing location

5 2 2 Symbol width

5.2.2.1 General. Unless otherwise specified, the width-to-height ratio should be not less than 2.3.

5.2.2.2 Air track symbols. The width-to-height ratio of the basic air track symbols depicted in Table I shall be 1 1.

5.2.2.3 Ground unit symbols. The width-to-height ratio of ground unit symbols should be approximately 3.2

5.2.3 Symbol stroke width. The stroke width-to-height ratio of light symbols on a darker background should be between 1 6 and 1 10, inclusively The stroke width-to-height ratio of dark symbols on a brighter background should be about 1.6.

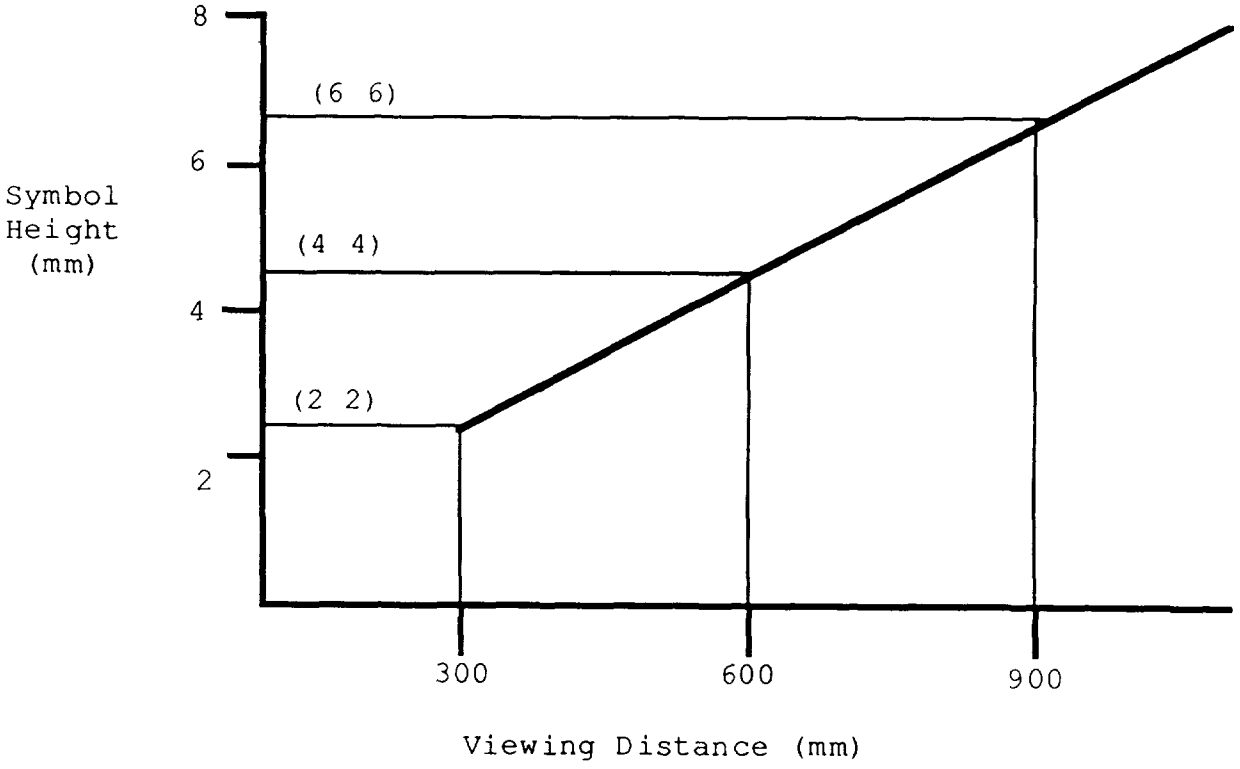


FIGURE 2 **Single local track symbol height required for various viewing distances**

5.2.4. Lines

5.2.4.1. Line width. The basic line width used to compose battlefield geometry symbols shall subtend a visual angle of not less than 1.2 mrad of arc when measured from the operator's eye in its normal viewing location. The equation shown in 5.2.1 may

5 2.4 2 Line brightness.

5 2 4.2.1 Levels. No more than two brightness levels shall be used

5 2.4.2.2 Brightness categories. Track symbols with their modifiers and tag data shall be displayed at a higher brightness level than map/battlefield geometry and ground unit symbols when simultaneously displayed

5.2.4.2.3 Illuminance compatibility Symbol brightness (luminance) shall be compatible with the operator's visual tasks and illuminance environment

5.2.4.2.4 Brightness control. Operator control of symbol brightness should be provided. Where such a control is provided, it shall differentially dim the two brightness levels so that the brightness ratio between them is relatively constant. If the display is to be used in an area with controlled ambient lighting, the minimum adjustment of the lower level shall be capable of providing display legibility under the highest ambient lighting anticipated. A continuously variable rather than discrete control shall be provided.

5.2.4.3. Line structure. Not more than six kinds of line structure coding shall be used to display air defense symbols Those selected shall allow for maximum contrast and discrimination and shall conform to Figure 1

5 2 5 Intercharacter spacing. The horizontal separation between alphanumeric characters shall be from 20 to 50 percent of the character width.

5 3 Air track/ground unit identifiers.

5.3.1 Air track/identifier location. The first character of the track identifier shall be located in the second data space to the right of a target symbol as shown in Figure 3.

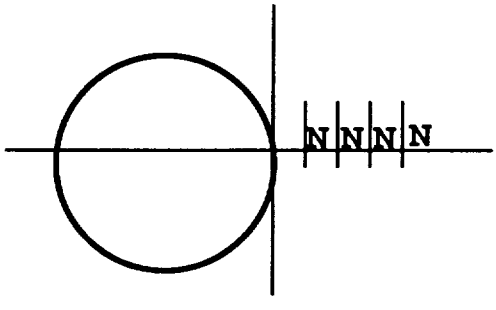


Figure 3. Air track identifier location

5 3 2 Ground unit identifier location. The ground unit identifiers should be located as outlined in FM-101-5-1 Figure 4 illustrates an example of the specified format Further explanation of the nomenclature is in Table I

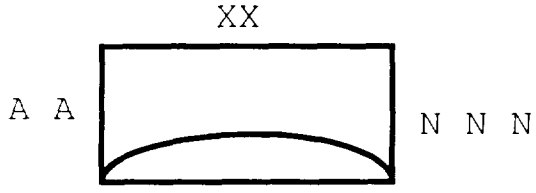


FIGURE 4. **Ground unit identifier location**

Figure 5 illustrates an alternate method for showing Air Defense Ground Units and is acceptable for use where display size is limited for the amount of display information presented

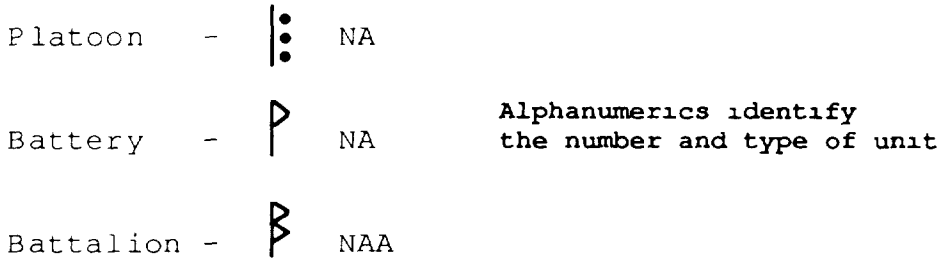


Figure 5. **Alternate method for showing ADA ground unit identifier location**

5 3 3 Content Integration of air track, map and ground unit symbology should be displayed as shown by the example given in Figure 6

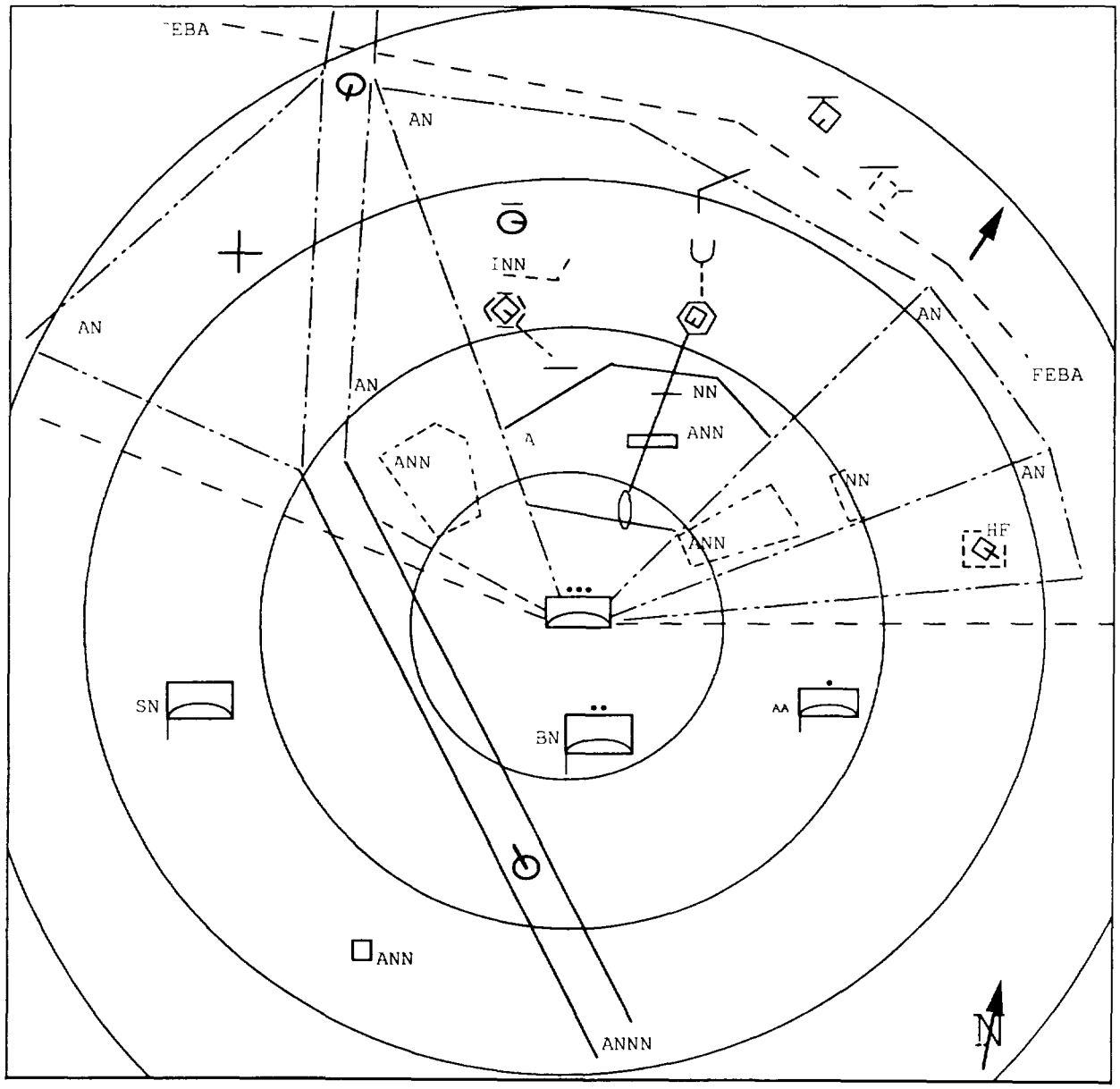


Figure 6. Integration of U.S. Army air defense symbology used on a representative graphical display

6 NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory)

6.1 Intended use. This standard is intended to specify requirements and guidelines for selection and use of symbols for depicting essential information in Army air defense system diaplays.

6.2 Acquisition requirements Acquisition documents should specify the following.

6 2.1 Issue of DODISS. When this standard is used in acquisition the applicable issue of the DODISS must be cited in the solicitation (see 2.1.1).

6 3 Subject term (key word) listing

Modifiers
Symbol coding
Symbol modifiers
Symbol shape
Symbology

6.4 Changes from previous issues Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes

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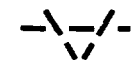
TABLE I. Air defense basic graphic symbols

SYMBOL NAME	ENGAGEABLE	UNENGAGEABLE*
HOSTILE AIR/SPACE TRACKS		
Fixed Wing (FW)		
FW Unmanned Aerial Vehicle (UAV)		
Rotary Wing (RW)		
RW Unmanned Aerial Vehicle (UAV)		
Tactical Air-to-Surface Missile (TASM)		
Cruise Missile (CM)		
Tactical Ballistic Missile (TBM)		
Satellite		
UNKNOWN AIR/SPACE TRACKS		
FW		
FW UAV		
RW		
RW UAV		
Satellite		

*See Note 2 at the end of this table, page 18

TABLE I. Air defense basic graphic symbols - Continued

SYMBOL NAME	UNENGAGEABLE*
FRIENDLY AIR/SPACE TRACKS	
FW	
FW UAV	
RW	
RW UAV	
Surface to Air Missile (SAM)	
Cruise Missile (CM)	
Satellite	
NEUTRAL AIR/SPACE TRACKS	
FW	
FW UAV	
RW	
RW UAV	
SAM	
CM	
Satellite	

*See Note 2 at the end of this table page

TABLE I. Air defense basic graphic symbols - Continued

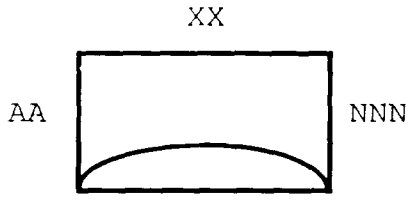
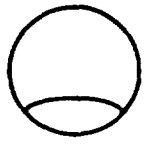
SYMBOL NAME	ENGAGEABLE*
HOSTILE LAND TRACK	
Hostile Surface Track	
Hostile Subsurface Track	
UNKNOWN LAND TRACK	
Unknown Surface Track	
Unknown Subsurface Track	
FRIENDLY LAND TRACK	
Friendly Surface Track	
Friendly Subsurface Track	
NEUTRAL LAND TRACK	
Neutral Surface Track	
Neutral Subsurface Track	

*Note: Unengageable tracks are depicted by a dashed line structure of the basic symbol as shown on page 14.

TABLE I. Air defense basic graphic symbols - Continued

SYMBOL NAME	SYMBOL SHAPE
LANDMARKS	
Building	
Church	
Tower	
Tree	
Mountain	
Bridge	
Storage Location	

TABLE I. Air defense basic graphic symbols - Continued

SYMBOL NAME	SYMBOL SHAPE*
Basic ADA Unit	
Basic ADA Installation	

*Note 1: Unit Size Modifiers

	AA	XX	NNN
Brigade		X	
Battalion		II	
Battery	A-H	I	
Platoon	A-H	●●●	N
Section	A-H	●●	NN
Fire Unit	A-H	●	NNN

Note 2: Unengageable status. The unengageable status of a track indicates that a track cannot be engaged if one or both of the following conditions exist:

a. The track is beyond the effective engagement range of the weapon system.

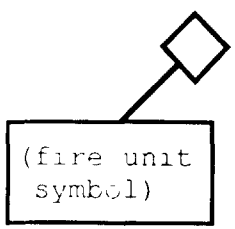
b. The track is not to be engaged based on the current Weapons Control Order or Rules of Engagement

Also, friendly and neutral tracks are never engageable and therefore, symbols are displayed using solid-line structure only. It is also assumed that most air defense artillery (ADA) systems have a capability to change the track identification.

TABLE II Air track graphic symbol modifiers

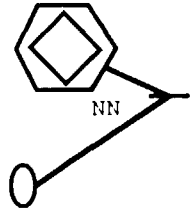
SYMBOL NAME	SYMBOL SHAPE	APPLICATION
Multiple Engageable Air Track		Used with all air track symbology symbols when two or more tracks are located in close proximity to each other, traveling in the same general direction and at similar speeds The symbol formed by the inner line shall be the same size as the single track symbol The outer line shall be separated from the inner line by one stroke width of the line
Single Engageable Air Track		All hostile and unknown track symbols shall be displayed by a solid line structure when such tracks are or become engageable.
Single Unengageable Air Track		All hostile and unknown track symbols shall be displayed by a dashed line structure when such tracks are or become unengageable for any reason
Multiple Unengageable Air Track		Same as single, unengageable air tracks.

TABLE II Air track graphic symbol modifiers - Continued

SYMBOL NAME	SYMBOL SHAPE	APPLICATION
Engaged Air Track (Single)*		Indicates that a target is under engagement by an ADA fire unit The vertical dimension of this modifier shall subtend a visual angle of not less than 12 mrad of arc The modifier shall be centered on the basic air track symbol
To-Be-Engaged Air Track*		Indicates that a target has been assigned for manual or automatic engagement The vertical dimension of this modifier shall be the same as that of the Engaged Hostile modifier
To-Be-Engaged Air Track Ripple Fire*		Same as To-Be-Engaged Air Track except that more than one missile is to be used
Fire Unit-Target Pairing		Used in fire distribution systems to designate assignment of a target to a fire unit

* - Used only with hostile and unknown air track symbols

TABLE II Air track graphic symbol modifiers - Continued

SYMBOL NAME	SYMBOL SHAPE	APPLICATION
Speed/Heading Vectors*		Speed shall be indicated by up to three possible values High, medium, low As a minimum, heading should be indicated as one of sixteen directions in 22 5 degree increments A track having zero speed will not display a vector
Low-speed Track with heading vector		One end of the vector shall start at 1/2 the distance from the symbol center and the other end extending beyond the symbol perimeter line by the length of the vector within the symbol
Medium-speed Track with heading vector		One end of the vector shall start at 1/2 the distance from the symbol center and extend beyond the symbol perimeter line to a length equal to the total length of the low-speed vector line
High-speed Track with heading vector		Vector extends from 1/2 the distance from the symbol center and extends to a length outside the symbol perimeter the length of the external low and medium vectors
Predicted Intercept Point		Used only with missile/target pairing lines which are solid Numerics give time to intercept in seconds

*These vectors apply to all Table I symbols except landmarks

TABLE II Air track graphic symbol modifiers - Continued

Symbol Name	Symbol Shape	Application
Cover		Indicates that a cover command is imposed on the track by either automatic or operator action Modifier size shall be the same as for the To-Be-Engaged Air Track modifier
Cease Engage		Indicates that a cease engage status is imposed on the track by either automatic or operator action Modifier size shall be the same as for the To-Be-Engaged Air Track modifier
Engage Hold		Indicates that an automatic engagement is on-hold, used with ADA fire units which have an automatic engagement capability Modifier size shall be the same as for the To-Be-Engaged Air Track modifier
Hold Fire		Indicates that a hold fire status is imposed on the track by either automatic or operator action Modifier size shall be the same as for the To-Be-Engaged Air Track modifier
Cease Fire		Indicates that a cease fire status is imposed on the track by either automatic or operator action Modifier size shall be the same as for the To-Be-Engaged Air Track modifier

TABLE II Air track graphic symbol modifiers - Continued

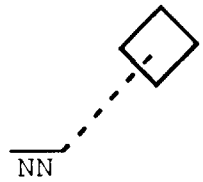
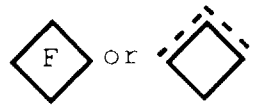
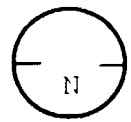
Symbol Name	Symbol Shape	Application
Launch-Now-Intercept Point		Depicted by an intercept point and connected to track symbol with a dashed (short dashes and spaces) line Numerics show time to last launch in seconds MSK (mask) shall be displayed when terrain affects the intercept
Trails		Dashed (short dashes and spaces) straight line segments extending from the current position of the track should be displayed to show track history No more than 32 seconds of track shall be displayed Trails shall not be displayed when launch-now-intercept point is displayed.
Faker		Depicted by an "F" modifier added to the center of the basic hostile, unknown, and friend symbols to designate a particular track as a "Faker" in a training environment (i e , simulated track)
Non-Mode 4 IFF Response		Depicted by an "N" modifier added to the interior of a basic track symbol to show that identification of the track was made by a Non-Cooperative Target Recognition (NCTR) Device instead of an active MARK X or MARK XII interrogation If required, the "N" Modifier will alternate with any other interior alpha modifier at the symbol update rate

TABLE II Air track graphic symbol modifiers - Continued

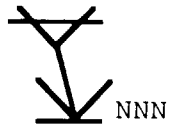
Symbol Name	Symbol Shape	Application
Predicted Impact Point		Used only with air-to-surface missile (shown in example) and tactical ballistic missile tracks Numerics give time to impact in seconds The line between the missile and the predicted impact point is connected and decreases as the missile approaches the stationary impact point
Probable Kill	#	This symbol appears at predicted intercept point and alternates at a 1 Hz rate with the engaged track symbol for up to 3 seconds after predicted intercept has occurred For confirmed kill, the symbol shall not alternate and be constantly displayed

TABLE III. Map symbols

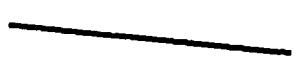
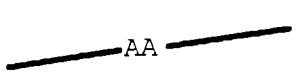
Symbol Name	Symbol Shape	Application
North Reference		North shall be indicated relative to the top of a PPI Display The N is vertical, the arrow points north.
Forward Edge of the Battle Area		Line structure shall be short dashes and spaces
Forward Line of Own Troops		Line structure shall be long dashes and spaces
Fire Support Coordination Line		Line structure shall be short dashes and dots Alpha designators are optional
Masked Area Boundaries		Short dash, short space line structure. Numerics show average height of masked terrain above radar in km
Geographic Bundaries		Solid line structure of the required length
Unit Boundaries		Solid line structure of the required length with open space for required alphanumerics

TABLE III Map symbols - Continued

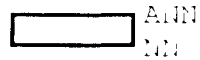
Symbol Name	Symbol Shape	Application
Primary Search Sector or Radar Search Sector Boundaries		Two solid lines, extending from radar or weapon location to maximum range
Radar Track Sector		Dashed (short dashes and spaces) line Used only if track sector is different from the search sector E.tends from radar location to maximum range
Primary Target Line (PTL)		Solid line should terminate on the maximum range at the assigned PTL azimuth Length of line is variable
Defended Point/Asset		Alphanumerics show status and identification information for these units All map symbols and alphanumerics shall be displayed at low brightness
Range Rings		Solid circular lines of required scaling
Point		Open square of minimum size

TABLE III. Map symbols - Continued

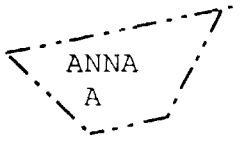
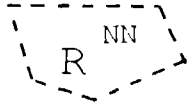
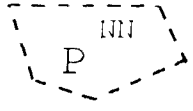
Symbol Name	Symbol Shape	Application
Combined Weapon Control and Identification Origin Volume		Long dash and dot segments The left alpha character, if required, shall be either H (hostile) or F (friend) to show origin The numerics shall be used when more than one volume exists with the same weapon control status The right alpha character shall be either H (hold), F (free), or T (tight) The bottom alpha character shall be F (fixed wing) or R (rotary wing), and if status applies to both F and R, then no letter will be displayed
Track Origin Volume		Short dash and long space segments Alpha character shall be either H or F for hostile and friendly origins The numeric shall be used when more than one origin exists
Combined Volume and Safe Passage Corridors		Parallel solid or short dash and space line segments For one-way corridors, an arrow shall be used on both lines to show direction The left alpha character is an F to show a safe area for friendly aircraft The numerics shall be used when more than one corridor exists and the right alpha character shall be H (hold), F (free) or T (tight) if weapon control status is required
Restricted Volumes		Short dashes and spaces "R" shall always be present and numerics to be used if more than one exists
Prohibited Volumes		Short dashes and spaces "P" shall always be present and numerics to be used if more than one exists

TABLE IV Special symbols

Symbol Name	Symbol Shape	Application
Graphic Display Cursor		Operator controlled Can move in two dimensions simultaneously Cursor shall not blink The major dimension of the cursor shall subtend from 12 8 to 14 mrad of visual arc at the operator's eye
Pointer		A transmittable symbol under the direct control of the operator, used to point to displayed information, for highlighting or identifying areas of interest Solid line structure Length of pointer shall subtend 10 to 11 mrad of visual arc at the operator's eye Optionally used as a graphic display cursor
Tabular Display Cursor	UNDERLINE	Operator controlled cursor Can move horizontally left and right, vertically up and down Can not move diagonally Solid line structure Length shall subtend 7 to 8 mrad of visual arc at the operator's eye Blinking is optional (2 Hz, if used) Used to denote present cursor position for entering text
Special Status	S	Displayed within the hostile, unengageable unknown, or friend air track symbol

TABLE IV Special Symbols - Continued

Symbol Name	Symbol Shape	Application
Jammer (ECM)		Solid line structure Symbol shall blink at a 1 Hz rate with the hostile symbol when range is known This blink rate means that the Hostile and Jammer symbols are alternatively displayed, i e , both symbols are never displayed simultaneously
True Friend	T	Displayed within the friend symbol Indicates an IFF Mode 4 response
Jam Strobe		Solid line structure Length to be either initializable or fixed by design Display to indicate bearing of a jammer when range is known The one end should extend to limits of the display to facilitate triangulation process
Display Clutter	=:=	Short dash and dot parallel line structure Length to be fixed by design
Assumed Friend	A	Displayed within the Unknown symbol Shows a Mode 3 IFF response which correlates with an unknown symbol

CONCLUDING MATERIAL

Custodian
Army - MI

Preparing activity
Army - MI
Project HFAC-A021

Review activities.
Army - AR, AV, CE, CR, ER, SC, TE

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