

CHAPTER 8

ALPHANUMERIC BLOCKS

8.1. Product Definition Block. This block shall be a variable length block including the LENGTH and CHECKSUM when used. The format shall be as shown in Figure 8-1. This block is optional. An example of an application would be to provide additional routing information for alphanumeric messages.

8.2. Data Description Block. This block is not currently used for alphanumeric data.

8.3. Data Blocks. The Alphanumeric data blocks shall be formatted as shown in Figures 8-2 through 8-5. These blocks are defined in the following paragraphs.

8.3.1. Alphanumeric Characters Block. This block shall be formatted as shown in Figure 8-2. This block is used to transmit textual information to be placed on displayed products (e.g., graphics products). Each block shall transmit one complete string of ASCII characters, including control characters. This block will normally be used to transmit nonstandard product labels/legends or variable information to be placed in a standard label/legend.

8.3.2. Plot Data Block. This block shall be formatted as shown in Figure 8-3. This block is used to transmit alphanumeric characters to be displayed at a specific location on a product in a specified format. Each block may be used to transmit labels for one or more lines on the product. It may be used to transmit weather symbols (such as thunderstorm symbols) that are to be displayed at a specified location on the product. The block may transmit any number of symbols as long as they are all to be displayed in the same size and color. The display format to be used is specified by a plot code. The Plot Process Code options are listed in Table C2-2.

8.3.3. Wind Barbs Data Block. This block shall be formatted as shown in Figure 8-4. The block is used to transmit wind direction and speed observations or forecasts to place a wind barb symbol at the specified location on the product. Multiple wind barbs may be transmitted in a single block. Additional blocks may be used, as required, to transmit all wind barbs associated with a product.

8.3.4. Alphanumeric Data Block. This block shall be formatted as shown in Figure 8-5. The data field shall contain an even number of ASCII characters which comprise all or part of the message text. All man-readable messages not intended for display shall use this block. The block follows the conventions for non-graphic data outlined in Section 2.2.3.2.

FF	LENGTH (I)	
	005	020
	CHARACTER 1	CHARACTER 2
	CHARACTER 3	CHARACTER 4
	CHARACTER 5	CHARACTER 6
	.	.
		LAST CHARACTER
CHECKSUM		

NOTES:

1. **CHARACTERS:** The CHARACTER fields may be used to define additional information concerning the alphanumeric blocks. The block contains an even number of ASCII characters. This block follows the conventions for non-graphic data outlined in Section 2.2.3.2.

Figure 8-1. Alphanumeric Product Definition Block;
Mode 5, Submode 20

FF		LENGTH (I)	
005		001	
M COORDINATE			
N COORDINATE			
DELTA M		DELTA N	
B	R	CHAR. SIZE	CHARACTER 1
CHARACTER 2		CHARACTER 3	
CHARACTER 4		CHARACTER 5	
.			
.			
.			
CHARACTER n-1		CHARACTER n	
CHECKSUM			

NOTES: Figure 8.2:

1. **M,N COORDINATE:** The M and N coordinate element identifies the starting position of the textual string. It references the lower left corner of the first character in the string. M and N are determined by the COORDINATE FLAG in the Product Definition Block.
2. **DELTA M, N:** The DELTA M and DELTA N identify the start point of the first character in the string at some desired distance from the M and N coordinate element. The distance remains fixed despite whatever zoom value is used.
3. **B = Block Mode:** The Block Mode is the indicator for the blanking area covered by a character. If B = 1, a rectangular display area is cleared beneath the standard generated character. If B = 0, the character is displayed normally unless R = 1.
4. **R = Reverse Block Mode:** The Reverse Block Mode is an indicator for reverse video (negative image). R = 0 is for normal image. R = 1 is the same as B = 1, except the display polarity is reversed.
5. **CHAR SIZE:** Defines the height/width of a character relative to the standard character set size. Zero indicates standard character set size of the display device. If the element is non-zero, it represents a multiplicative factor applied to the standard character set size, e.g., 0 = 5 x 7, 1 = 10 x 14, 2 = 15 x 21, etc.

Figure 8-2. Alphanumeric Characters Block; Mode 5, Submode 1

FF		LENGTH (I)	
005		002	
B	R	CHAR SIZE	PLOT PROCESS CODE
M COORDINATE (1)			
N COORDINATE (1)			
CHARACTER 1		CHARACTER 2	
CHARACTER 3		CHARACTER 4	

⋮

CHARACTER n-1		CHARACTER n	
M COORDINATE (m)			
N COORDINATE (m)			
CHARACTER 1		CHARACTER 2	

⋮

CHARACTER n-1		CHARACTER n	
CHECKSUM			

Figure 8-3. Plot Data Block; Mode 5, Submode 2

NOTES: Figure 8.3:

1. **B = Block Mode:** The Block Mode is the indicator for the blanking area covered by a character. If $B = 1$, a rectangular display area is cleared beneath the standard generated character. If $B = 0$, the character is displayed normally unless $R = 1$.
2. **R = Reverse Block Mode:** The Reverse Block Mode is an indicator for reverse video (negative image). $R = 0$ is for normal image. $R = 1$ is the same as $B = 1$, except the display polarity is reversed.
3. **CHAR SIZE:** Defines the height/width of a character relative to the standard character set size. Zero indicates standard character set size of the display device. If the element is nonzero, it represents a multiplicative factor applied to the standard character set size, e.g., 0 = 5 x 7, 1 = 10 x 14, 2 = 15 x 21, etc.
4. **PLOT PROCESS CODE:** This octal code specifies the processing required to interpret and display the characters 1 through n contained in the block. The PLOT PROCESS CODES are found in Table C2-2.
5. **M, N COORDINATE:** Specifies the geographical point about which the data is to be plotted. M and N are determined by the coordinate flag in the Product Definition Block.
6. **Characters 1 through N:** The ASCII character string representing the alphanumeric characters or weather symbols as defined by the Plot Process Code.

Figure 8-3. (Cont.) Plot Data Block; Mode 5, Submode 2

FF	LENGTH (I)	
	005	003
	SHAFT LENGTH	BLANKING FLAG
M COORDINATE (1)		
N COORDINATE (1)		
DIRECTION (1)		
SPEED (1)		
	GUST (1)	HEMISPHERE (1)

⋮

M COORDINATE (n)		
N COORDINATE (n)		
DIRECTION (n)		
SPEED (n)		
	GUST (n)	HEMISPHERE (n)
CHECKSUM		

Figure 8-4. Wind Barbs Data Block; Mode 5, Submode 3

NOTES: Figure 8.4:

1. **SHAFT LENGTH:** The number of pixels for the shaft line (from base to first barb).
2. **BLANKING FLAG:** An indicator for blanking the area covered by the wind barb character. If left-most bit is set (i.e., a "1") the area is blanked, if the left-most bit is off (i.e., a "0") blanking is not done.
3. **M,N COORDINATES:** Defines the location of the base of the wind barb shaft. M and N are determined by the **COORDINATE FLAG** in the **Product Definition Block**.
4. **DIRECTION:** An integer number in whole degrees. It specifies the direction from which the wind is blowing.
5. **SPEED:** An integer number in whole knots.
6. **GUST:** An integer number in whole knots.
7. **HEMISPHERE:** An indicator for Northern or Southern Hemisphere. If the right-most bit is set (1), the wind flags go to the left of the shaft (Southern Hemisphere) as viewed from the head of the shaft. If not set (0), the flags go to the right of the shaft (Northern Hemisphere).

Figure 8-4. (Cont.) Wind Barbs Data Block; Mode 5,
Submode 3

FF	LENGTH (I)	
005		004
CHARACTER 1		CHARACTER 2
CHARACTER 3		CHARACTER 4
.		
.		
.		
CHARACTER n-1	B	ETB, ETX or NULL
CHECKSUM		

NOTES:

1. **CHARACTERS:** The data field is an even number of ASCII characters (both alphanumeric and control characters).
2. **B:** The use of this field is optional. It is only used with the ETB/ETX option. See Section 2.2.3.2.B. If B (high order bit) = 1, this byte contains the last character of the data set.
3. **ETB, ETX, or Null:** If the "Null Termination" option (see Section 2.2.3.2.B) is used, then Null will appear as the only valid termination character for the alphanumeric string. If the ETB/ETX option is used, then the following conventions will apply. The last byte in the block contains the ASCII control character ETB if the block is not the final block in the product data set. The last byte is ASCII control character ETX if the block is the last block in the Product Data Set. See Section 2.2.3.2.

Figure 8-5. Alphanumeric Data Block; Mode 5, Submode 4