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MARK RESOURCES INC MARINA DEL REY CA  
RFSS. SUGGESTED DATA FORMAT FOR MIRADCOM TARGET MODELS. (U)  
APR 78 R L MITCHELL

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DAAK48-78-C-0031

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SUGGESTED DATA FORMAT FOR MIRADCOM TARGET MODELS.

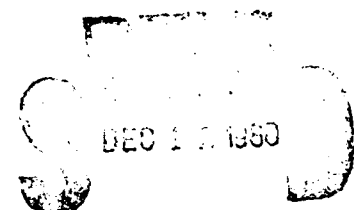
TECH NOTE 105-041

26 APR 78

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SUGGESTED DATA FORMAT FOR MIRADCOM TARGET MODELS

MRI Report 149-18

R. L. Mitchell

26 April 1978

This memo is written in response to Mike Mumford's Target Model (dated 2 March 1978, in the form of a computer listing).

The form of this target model is

$$\begin{pmatrix} a \\ x \\ y \\ z \end{pmatrix} = \begin{bmatrix} a_0 & a_1 & a_2 & a_3 \\ x_0 & x_1 & x_2 & x_3 \\ y_0 & y_1 & y_2 & y_3 \\ z_0 & z_1 & z_2 & z_3 \end{bmatrix} \begin{pmatrix} 1 \\ \theta \\ \theta^2 \\ \theta^3 \end{pmatrix}$$

*(one page rept)*

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where a, x, y, and z are the amplitude and location of a scatterer as a function of  $\theta$ , the target aspect (azimuth) angle. The 16 constants apply over some limited interval of  $\theta$ .

In order to ease the burden of implementing this target model on several different computer systems, the use of cards for data input is suggested. The following data format is also suggested for each card:

- |           |                           |          |
|-----------|---------------------------|----------|
| Word 1    | - A, X, Y, or Z           | (A2)     |
| Word 2    | - Scatterer number        | (I4)     |
| Word 3    | - Lower limit of $\theta$ | (F8.3)   |
| Word 4    | - Upper limit of $\theta$ | (F8.3)   |
| Words 5-8 | - The four constants      | (4E14.6) |

Note that words 2 through 4 will be repeated for four cards, which comprise the data for one scatterer for one set of aspect angles. If we assume that there is an average of six aspect angle regions, then ten scatterers can be recorded on  $10 \times 6 \times 4 = 240$  cards. The table size required for storing the constants is  $10 \times 6 \times 16 = 960$  words, with an additional  $10 \times 6 = 60$  words for the limits of  $\theta$ .

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