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RFSS. SUGGESTED DATA FORMAT FOR MIRADCOM TARGET MODELS.(U)
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(6) RFSS

SUGGESTED DATA FORMAT FOR MIRADCOM TARGET MODELS

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PREPARED FOR: RF SYSTEMS BRANCH (DRDMI-TDR)
SYSTEMS SIMULATION DIRECTORATE
TECHNOLOGY LABORATORY
US ARMY MIRADCOM
REDSTONE ARSENAL, AL 35809

(5) DAAK 40-78-C-0031

PREPARED BY: (10) DR. B. L. MITCHELL
MARK RESOURCES, INC.
4676 ADMIRALTY WAY
SUITE 303
MARINA DEL REY, CA 90291

91766

MARK RESOURCES INCORPORATED

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

$$\begin{Bmatrix} a \\ x \\ y \\ z \end{Bmatrix} = \begin{bmatrix} a_o & a_1 & a_2 & a_3 \\ x_o & x_1 & x_2 & x_3 \\ y_o & y_1 & y_2 & y_3 \\ z_o & z_1 & z_2 & z_3 \end{bmatrix} \begin{Bmatrix} 1 \\ \theta \\ \theta^2 \\ \theta^3 \end{Bmatrix}$$

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

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 θ	(F8.3)
Word 4	- Upper limit of θ	(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 × 6 × 4 = 240 cards. The table size required for storing the constants is 10 × 6 × 16 = 960 words, with an additional 10 × 6 = 60 words for the limits of θ.

4676 ADMIRALTY WAY / SUITE 303 / MARINA DEL REY, CALIFORNIA 90291 / (213) 822-4955


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