AL/COM Fortran IV is a SUPERIOR programming language which encompasses USASI Full Fortran and a variety of Advanced AL/COM Features. Any program congruous with the USA Standards is compatible with the AL/COM Fortran System. The additional facilities are described in the following summary:

**Specification Statements**

A. Storage Statements—The AL/COM Fortran System offers great flexibility in the process of allocating storage to arrays. The programmer is able to:

1. use an infinite number of array dimensions,
2. allocate the range of array dimensions at execution time,
3. assign to the minimum subscript values of an array quantities which may be less than or equal to zero.

B. Type Specifications—The user is presented with a convenient method of assigning variables to a type (integer, real, etc.) through use of the IMPLICIT statement, which causes any variable not referred to in another type statement, and which has as its first character a symbol corresponding to one of those listed in the IMPLICIT statement, to be classified according to the type specified in that statement.

**Input-Output Statements**

A. Random Access Files—Random Access files may be read and written through use of the random read routine, RREAD, and the random write routine, RWRI.

B. Free Format—The field width portion of the numeric field codes may be omitted in I/O Formats.

C. Input/Output—Input/Output is device independent. I/O devices may be determined at run time.

D. Additional I/O Statements—The TYPE and ACCEPT commands are available for transmission of data through the TTY.

E. Octal Field Specifications—Octal fields may be defined through use of the ‘O’ conversion code.

**Mixed Mode Arithmetic**

Any type of quantity may be combined with any other type with one restriction: a complex quantity may not be combined with a double precision quantity.

**Do Loop Indices**

The initial, terminal, and incremental indices of a DO statement may assume negative or positive values, and the initial or terminal index may be assigned a zero value.

**Additional Logical Operands**

Two more logical operands are offered:

A.—Exclusive OR—.XOR.

B.—Equivalence—.EQV.

More on other side
SUBROUTINE CHANGM(ARRAY1, ARRAY2, ARRAY3, ARRAY4, K1, K2, K3, K4, K5, N1, N2, N3, N4)

DIMENSION ARRAY1(K1, K2, K3, K4, K5), ARRAY2(N1, N2, N3, N4),
ARRAY3(N1, N2), ARRAY4(K1)

IMPLICIT DOUBLE PRECISION(C-D)

ACCEPT DATA FOR ARRAY1
TYPE 911
DO 1 M = 1, K5
DO 1 K4 = 1, K4
DO 1 K3 = 1, K3
DO 1 J = 1, K2
DO 1 I = 1, K1
ACCEPT I, J, K, L, M, I = I, K1
CONTINUE

CARD = 3.67894399
CARD = CARD + ARRAY1(I, 1, 1, 1, 1)

CONTINUE

TOTAL ARRAY1 & PRODUCE ARRAY4 & PRINT ARRAY1
DO 17 I = 1, K1
DO 17 J = 1, K2
DO 17 K = 1, K3
DO 17 L = 1, K4
DO 17 M = 1, K5
ARRAY4(I) = ARRAY4(I) + ARRAY1(I, J, K, L, M)
DARE = 4.916742399
DARE = ARRAY4(I) + DARE

CONTINUE

PRODUCE ARRAY3 THROUGH ARRAY2
DO 20 I = 1, N1
DO 20 J = 1, N2
DO 20 K = 1, N3
DO 20 M = 1, N4
ARRAY3(I) = ARRAY2(I, J) * J + ARRAY3(I)

CONTINUE

TEST VALUES OF ARRAY3 & ARRAY 4
IF(ARRAY3(I) .EQ. ARRAY4(I) .XOR. ARRAY3(I) .EQ. 0) THEN
1
2
ARRAY3(I) = ARRAY3(I) ** 2
CONTINUE

RETURN
FORMAT(1X, 'INSERT DATA FOR ARRAY1')
FORMAT(1X, 'INSERT DATA FOR ARRAY2')
END