REVISION NOTICE

This publication replaces previous descriptions of "Matrix Transpose 1," program D1-429.4. The program designations have been changed to current usage.

FUNCTION

"Matrix Transpose 1" enables the user to transpose a square matrix. The transposed matrix will either replace the given matrix in memory or will be placed in another storage area.

INPUT

The elements of a square matrix are stored in consecutive drum locations beginning in Mo.

OUTPUT

The elements of the transposed matrix are stored beginning in M'o. M'o is equal to Mo or is sufficiently distant from Mo so that there is no overlap.

CALLING SEQUENCE

Location	Order	Address
XXXX - 1	E	0000
XXXX	R	Lo
XXXX + 1	U	Lo
XXXX + 2	(n at 15)	Mo
XXXX + 3	Z	M'o
XXXX + 4	etc.	

CALLING SEQUENCE   (Cont.)

The E0000 order in XXXX - 1 is required only if the previous instructions are interpreted by program H1-24.0.   In XXXX + 2, n is the order of the matrix

$$1 < n < 32$$

TIME

Approximately $.1n^2$ seconds are required.

STORAGE

122 locations (1 track, 58 sectors) are required in memory for storage of instructions and constants. No temporary storage is used.

000b0000'y0063'y0061'y0113'e0140'm0139'h0060'
a0144'h0157'u0050'y0039's0061't0039'b0063'
a0157'u0027'b0045'a0060'
u0019'y0048'u0023'b0000',0000001'8'y0045'b0039'a0147'u0031'
y0045'y0039'y0063'u0033'y0046'u0010'b0061'
a0060'h0061'b0058's0145'u0042'b0000'h0062'u0045't0000'
h0058'u0016'b0000'h0000'b0062'h0000'u0016's0022'h0058'b0000'
a0145'y0100'a0145'y0042'u0100',0000003'''b0000',0000002'''

b0000'y0114's0063't0106's0145't0152'b0060'n0058'm0137'a0063'a0146'
y0021'u0113'b0000'h0000'u0128'b0058's0146'h0058'
t0042'u0122''b0063'a0145'y0063'y0113'b0021'u0131'b0114'a0144'u0135'
a0146'h0021'u0113''y0114'u0141',0000004'20000000''20000'
1w0000'b0113'a0060'u0148'xz0001'xz0001'xz0001'xz0001'y0113's0021'
t0113'u0116'b0063'u0027'.0000000'