

M68FTNR010D Resident FORTRAN Compiler

The EXORciser-resident FORTRAN Compiler provides a new dimension to Motorola's support for the M6800 Microcomputer family of parts as a problem solving and development tool. FORTRAN is a high-level programming language widely used for scientific and engineering problem solving, with features also useful for certain business-related applications. The Resident FORTRAN is a subset of the ANSI standard for FORTRAN IV.

- Relocatable object output file compatible with the M6800 Linking Loader.
- Source and error message output to a printer or the terminal.
- FORTRAN library containing mathematical subroutines and run time I/O routines.
- Optional listing of generated machine language.
- Free field source input.
- Statement continuation.

System Configuration

The minimum system hardware configuration is:

- An EXORciser
- 16K bytes of memory
- An EXORDisk (requires one floppy disk driver)
- An EXORciser-compatible terminal

The minimum configuration may be expanded up to 65,536 bytes of memory and up to four disk drives providing over a million bytes of disk storage.

Language Features

Data Types

- Two byte signed integer, maximum magnitude 32,767.
- Four byte real, magnitude 10^{-78} through 10^{75} .
- Literal, one byte character.

Variable Names

- One through six alphanumeric characters (first character must be A-Z).
- Implicit type declaration according to first character. I through N integer, A through H, O through Z real.

Arithmetic and Logical Operators

- Exponential
- Multiplication
- Division
- Addition
- Subtraction
- Relational operators

Sequence Control Statements

- Unconditional GOTO
- Computed GOTO
- Arithmetic IF
- Logical IF
- DO statement
- CONTINUE
- STOP
- END

I/O Statements

- Formatted READ from disk or terminal
- Formatted WRITE to disk or terminal
- Formatted PRINT to terminal
- Free format READ
- REWIND
- FORMAT conversions
 - I-conversions
 - E-conversions
 - F-conversions
 - A-conversions
- Literal fields
- Character positioning specifications
- Group specifications

Specification Statements

- DATA initialization
- DIMENSION, three dimensions maximum
- Blank COMMON

Subprograms

- FUNCTION
- SUBROUTINE
- RETURN
- CALL

Intrinsic Functions/Subroutines

- SQRT - square root
- EXP - exponent base e
- SIN - sine
- COS - cosine
- ATAN - arctangent
- ALOG - natural logarithm
- ABS - absolute value
- POWER - computes a power
- OPENF - disk file open
- CLOSEF - disk file close

