ELLIOTT 900 SERIES SIMULATOR

COMPILING AND RUNNING FORTRAN PROGRAMS.

Entry points.

Translator (Tape 1)

```
 8  Translate to SIR code.
 9  Continue translation after halt.
10  Report Mode (check for errors only).
```

There are two modes available for running 903 FORTRAN programmes: batch mode and relocatable mode. The former should be used for all programs up to about 120 FORTRAN statements and the latter for larger programs. In relocatable mode the SIR code is converted to relocatable binary as an additional step prior to loading and execution.

Runtime (Tape 2)

```
 8  Load SIR code (from Translation phase) for batch mode.
 9  Continue after wait.
10  Indicate program complete.
11  Run the program.
12  Load for batch mode, display store map.
13  Load SIR code (from Translation phase) for relocatable
    mode.
14  Load relocatable program tape (from entry at 13).
15  Load an extra relocatable binary (e.g., user's library)
    tape.
```

Load and Go (LG) System. (Replaces Tape 1 and Tape 2)

```
 8  Read program.
 9  Continue translation after halt.
10  Indicate program complete.
11  Run the program.
12  Read program and display store map.
15  Load an extra relocatable binary (user's library) tape.
16  Report mode (scan for errors only).
```

Large Program (LP) System. (Replaces Tape 2)

 9 Continue after halt.
10 Indicate program complete (produces a relocatable binary tape).
11 Run the program.
13 Read program.
14 Load relocatable program tape produced by previous entry at 10.
15 Load user's library tapes (e.g., separately compiled sub-program).
16 Report mode (scan for errors only).

Store Used.

2-Pass System

The run-time routines occupy 3500 words approximately. In Batach Mode the assembler occupies 2600 words, which may be used for the COMMON area. In relocatable mode the loader occupies 1100 words which may be used for the COMMON area.

Thus on a basic 903 with 8192 words of store, the following table shows the store available for FORTRAN programs:

	Batch Mode	Relocatable Mode
Object code + local variables and arrays	2000	3500
Object code + all variables and arrays including COMMON	4600	4600

The store layout for a typical program run in relocatable mode is:

0 to 7:	Registers.
8 to 3500:	Entry points and run-time routines.
3500 to 6100:	Object code of the FORTRAN program.
6100 to 7300:	COMMON area for the FORTRAN program.
7000 to 8179:	SIR loader (FORTRAN version).

ELLIOTT 900 SERIES SIMULATOR

Load and Go System.

During translation

0 to 7:	Registers.
8 to 3608:	Runt-time routines used by compiler.
3609 to 5400 (max):	Available for FORTRAN object code.
5475 to 8100:	SIR assembler.
8224 to 16330:	FOTRAN Translator and its workspace.

At run-time

0 to 7:	Registers.
8 to 3608:	Runtime routines.
3609 to 5400 (max):	FORTRAN object code.

COMMON area runs on from object code.

The total COMMON area should not exceed 8192 words. However this limit may be exceeded if the last item in COMMON for any sub-program is an array that starts at location 8192 relative to the start of COMMON.

Large Program System.

Locations 8 to 8039 of module 1 are available for object code. 4392 words of module 2 are available as the COMMON area. The run-time routines occupy approximately 3800 words of module 2 and 140 words of module 1. The SIR loader occupies 1000 words of module 2. Thus on a 903 with 16,384 words of store the following space is available for FORTRAN programs:

Object program (including local variables and arrays)	8000 words (approx.)
COMMON area (starting at location 11992 [3800+8192])	4192 words.

Note the same restrictions as apply to COMMON in the load and go system also apply to the large program system.