ELLIOTT 900

Volume 3: OPERATING INSTRUCTIONS

Part 2: PROGRAM OPERATING INSTRUCTIONS

Section 2: OPERATING PROCEDURES FOR S.I.R. PROGRAMS

Contents

Chapter 1: INTRODUCTION

1.1 General

Programs written in S. I. R. are read and translated by means of the SIR Assembler.

Options; introduced by an asterisk(*), followed by an optional + sign, and an integer, control the way in which the assembler operates.

1.2 Notes to Programmers

The programmers must specify what options are to be used, either on the operating sheet or by incorporating them into his tapes.

It is also the programmers responsibility to ensure that assembly of a set of mnemonic tapes ends with a percent (%) sign on or after the final tape.

Where more than one program is to be run, the instruction "RESET SIR AND CLEAR STORE" can be given rather than reloading the SIR assembler. The programmer using SIR should normally give this instruction at the beginning of his instructions. To run a program after it has been assembled and the entry point is unknown, the instruction- "RUN S. I. R. PROGRAM AT ENTRY POINT" or "ENTER at <n>" must be given. If the entry point is the normal entry point, i. e. <32>, the instruction -

"RUN S. I. R. PROGRAM" is sufficient.

1.3 Notes to Operators

When a program has been read into store, and a percent (%) sign is read in - SIR locates literals, displays a list (if any) of unlocated identifiers (introduced by EU), and outputs a FIRST LAST NEXT message. If no error messages are output before the FIRST LAST NEXT message the program has compiled correctly.

When a program is assembled to paper tape, if relocatable output continues to the end of the input tape, the program has compiled correctly. When an error is detected, R. L. B. output ceases, but the remainder of the program is checked for errors.

No attempt should be made to run programs that have not compiled correctly.

ENTRY POINT: The entry point for running the program when a label is
produced is the address of the global label specified.
(A global label is identified as a label, followed by a G).
If no label list has been output, and the entry point has
not been stated by the programmer, ENTRY POINT of
32 is assumed.

OPTIONS: Options consist of the following characters being typed
on the teleprinter

Carriage return

Line feed

* + (number) - where (number) refers to the
option specified

Carriage return

Line feed

Halt code

e. g.   "OPTION TWENTY THREE"

Carriage return

Line feed

* + 23

Carriage return

Line feed

Halt code

Chapter 2: COMMANDS

2. 1 "SET UP SIR ASSEMBLER"

"LOAD SIR ASSEMBLER by INITIAL INSTRUCTIONS"

2. 2 "ASSEMBLE (by SIR)" Name 1, Name 2.

Step 1   "SET UP SIR ASSEMBLER"

Step 2   "LOAD Name 1 at 8"
           If halt code occurs in Name 1,
           "CONTINUE at 9"

Step 3   "LOAD Name 2 at 9"
           REPEAT Step 2 for all subsequent tapes.

2. 3 "RUN S.I.R. PROGRAM"

If data tape provided

"LOAD data tape at 32"
else "ENTER at 32"

2. 4 "RUN S.I.R. PROGRAM at ENTRY POINT"

(Where ENTRY POINT is the address <n> of the global
label (see 1. 3)).

If data tape provided

"LOAD data tape at <n>"
else "ENTER at <n>"

2. 5 "ASSEMBLE TO PAPER TAPE (With SIR)" Name 1, Name 2.

Step 1   "SET UP SIR ASSEMBLER"

Step 2   If teleprinter available (ON-LINE)
           "INPUT OPTION ZERO FROM TELEPRINTER at 8"
           else "LOAD OPTION ZERO at 8" (see 1. 3).

Step 3   "LOAD Name 1 at 9"
           Step 3 is repeated for all subsequent tapes.

ERRORS: Error messages (if any) will be output to the teleprinter,
introduced by E, and relocatable binary output is suppressed.

If "RELOAD" button lights while tape is being output, press "RESET", reload the punch and return to step 1.

2.6 "RESET SIR AND CLEAR STORE"

If teleprinter available.

> "INPUT OPTION 23 FROM
> TELEPRINTER at 8"
> else "LOAD OPTION   23 at 8"

Notes: Labels will be displayed.

2.7 "ASSEMBLE TO PAPER TAPE WITH LOADER" Name 1, Name 2.

Step 2   If teleprinter available.

> "INPUT OPTION EIGHT FROM TELEPRINTER at 8"
> else "LOAD OPTION   8 at 8"

Step 3   "LOAD Name 1 at 9"
Step 3 is repeated for all subsequent tapes.

2.8 "LOAD INITIAL R. L. B. TAPE" Name 1

"LOAD Name 1 at 10"

2.9 "LOAD RELATED R. L. B. (Relocatable Binary) tape" Name 1

"LOAD Name 1 at 11"

This instruction is repeated for all subsequent R. L. B. tapes.

Note: Once R. L. B. tapes have been read in, it is not possible to assemble source tapes without reading in the 903 SIR Assembler again.