Optimizing Compiler for Advan BASIC

Introduction

You will find two Master disks for the Advan Optimizing Compiler in the center of this manual. Make sure that the write protect tabs on both disks are in place so that they can't be erased accidentally. You should put one away; it's your back up disk.

The compiler in Advan Basic generates fast, compact code, but even more speed is needed for some programs. The Optimizing Compiler speeds up the sections of program between FAST and FAST END, which are commands built into Advan BASIC. These FAST sections are usually speeded up 2 to 6 times faster than in Advan BASIC. However you don't get something for nothing. The length of these sections is also increased. The Optimizing Compiler compensates for this to some extent by optimizing and thus reducing the length of the remaining code by about 20 to 25 percent.

FAST and FAST END

The first step in using the Optimizing Compiler is to insert FAST and FAST END commands into the program. To do this you must load the program while in Advan Basic, insert these commands, and then save the program to a disk. You need to decide which sections of the code to speed up. For instance, it wouldn't make sense to speed up an INPUT command because its speed depends upon the time taken to type in the response.

Since loops are areas where a program usually spends most of its time, they should probably be the first regions to consider. For example, if you have a FOR loop you might place a FAST right in front of the FOR and FAST END right after the NEXT:

```
100 RTIME
110 FAST
120 FOR A=1 TO 30000
130  S=S+1
140 NEXT A
150 FAST END
160 PRINT S,TIME
```

If you use integers, Advan BASIC runs this program in about 15 seconds; the Optimizing Compiler reduces it to about 1.3 seconds. If you use real numbers, Advan BASIC takes about 32 seconds, and the Optimizing Compiler reduces that to about 16 seconds. ATARI BASIC needs 161 seconds to run the same program. A FOR loop at the end of a medium length program can be simulated by putting 100 REM statements at the beginning of the above program. In this case, ATARI BASIC needs 373 seconds for the loop, while the Advan times remain unchanged.

Rules governing the placement of FAST and FAST END:

(1) FAST And FAST END must be at the start of a line and there must be only one space after the line number. For example, 100 NEXT T:FAST END will give an error.