GENIE I   USER'S MANUAL

(Attach to Video Genie System user's manual)

Introduction

GENIE I is an enhanced version of Video Genie System. An 1.5K ROM is added to provide new keyboard and display functions, statement renumber command, and a machine language monitor.

New keyboard and display functions, and the monitor will be discussed in the following pages. The Renumber command is described in the Active Command section of the BASIC manual. For power up procedure, cassette operations and other system features, please refer to the V.G.S. user's manual.

Enable the 1.5K ROM routines

The computer is fitted with an exclusive 1.5K extension to the Microsoft 12K BASIC, featuring upper and lower case, flashing cursor, auto repeat keyboard, screen print, machine language monitor, and renumber functions.

To use these functions, the BASIC extension should be initialised immediately after the machine entering BASIC Active Command level:

The initialisation procedure is
i)   type SYSTEM NEWLINE
ii)   reply *?
iii)   type/12288 NEWLINE
iv)   A flashing cursor will show on the screen.

The entry address 12288 used in step (iii) will enable all the ROM facilities. If you just want part of them, there are two other choices. Enter address 12299 will retain all the facilities except flashing cursor. Enter address 12294 will have lower case facility only.

New Keyboard functions

Input lower case characters

Lower case characters can be input by hitting the character key with the SHIFT key depressed.

Repeat Key

After pressing a key longer than one second, the computer automatically repeats entering that character until the key is released.

Print Screen

By hitting SHIFT — ⬇ — P, the computer will transfer the information displayed on the screen to the printer. If no printer is connected or the printer is turned off, the computer will skip the printing process instead of locking up itself in waiting. Once the SCREEN PRINT function is activated, both alphanumeric and graphic characters on the screen will transfer to the printer. Only those printers that can recognise GENIE or TRS-80 graphic characters are able to print the graphics. Otherwise, only alphanumeric characters can be printed.

Disabled flashing cursor

A flashing cursor can attract the operations attention, however, somebody may feel it frustrating.

In order to disable the flashing cursor, hit SHIFT-BREAK. To enable it, hit SHIFT-BREAK again. If you don't want a flashing cursor at the start, please enter 12299 instead of 12288 during ROM initialization.

Machine Language Monitor

The machine language monitor allows you to enter, modify, display and execute (with breakpoints) Z80 machine code which is displayed and entered in hexadecimal format.

To enter the monitor, type SYSTEM NEWLINE and then / 12710 NEWLINE The machine will then show the current status of the CPU registers.

Five commands are available:

1. B Return to BASIC

typing B will return the machine to BASIC without altering memory contents.

2. D Display memory

This command has the form Dnnnn where nnnn is an address in hexadecimal. e.g. D4545 will display the contents of 16 memory locations starting from address 4545.

Use of the down arrow key will then display successive sets of 16 locations, the up arrow key will step back through the memory.

Use any other key to exit to the display of register contents.

3. R Modify registers

This command allows modification of any of the Z80 registers.

Pressing R will cause a display of the first register pair (IY) — the next four characters typed will be entered into the register, use the X key to skip to the next register pair.

```
e.g.  type    R
      display IY 8999/
      type    ABCD
      display IY 8999/ABCD
              IX 4025/
```

Register pair IY now contains ABCD and IX is ready to be modified. An automatic exit is performed after Program Counter (PC) has been modified.

4. M Modify memory

This command allows the modification of any RAM memory location.

The command has the form Mnnnn where nnnn is the first address to be modified.

```
e.g.  type    M4000
      display 4000 C3-
      type    FF
      display 4000 C3-FF
              4001 96
```

Location 4000 has now been modified to FF. Use the X key to exit.

5. G Start execution

The G command starts execution of a program. Command format is Gnnn,xxxx
NEWLINE where nnnn is the start address and xxxx is the breakpoint address.

e.g.   G0000 will boot up the machine.

G8000, 81AB the machine start execution from address 8000 and return to the
monitor when it runs to the address 81AB.

The monitor creates a breakpoint by inserting an instruction 'CALL 3347H' into the
breakpoint location. When the instruction is executed, all registers will be saved and the
former instruction in the breakpoint location will then be restored. Very often in program
debugging, the program runs into a dead loop or other happenings, the breakpoint is not
encountered. The user has to reset the computer to start again. However, the three bytes
CALL instruction still remains in the user program. The only way to restore the original
codes is by the M command, or by the POKE instruction in BASIC.