

Seconds to STORE and RECALL a 64K string in port 3 (SD card) with an HP 50g:

STO	1st RCL	Subsequent RCLs	Card
12.5	0.87	0.35	SanDisk "SD Card" 128MB
11.5	1.06	0.21	PNY "SD" 512MB
1.6	0.51	0.13	PNY "Optima SD" 2GB
1.4	1.11	0.26	PRETEC "60x" 128MB

Method used for timing STO:

Setup:

```
256.05 MENU 65536 MAKESTR 'String' STO
```

Timer:

```
« :3:TMP$ String OVER PURGE OVER « STO » MEM DROP TEVAL SWAP PURGE »
```

Method used for timing RCL:

Setup:

```
256.05 MENU 65536 MAKESTR :3:TMP$ STO
```

Timer:

```
« :3:TMP$ « RCL » MEM DROP TEVAL NIP »
```

Notes:

- 1) The HP 50g display clock was turned off.
- 2) Garbage collection did not occur during the STO operations, due to the MEM DROP in the timing routines.
- 3) Repeated STO operations on the same card yielded slightly different timings, possibly due to internal SD memory allocation.
- 4) Recall times varied very little.
- 5) The first RCL from an SD card (after plugging it into the HP 50g) takes much longer than all subsequent RCLs. I do not know why. Perhaps SD cards contain a fast recall cache? Or perhaps a file directory is built at the first recall and maintained for all further recalls? Just guessing. Do you know?
- 6) No measurement was made of the amount of power used for each STO; it might not be proportional to the timing.
- 7) The "60x" marking on the PRETEC card means that it stores 60 times faster than a standard 150K/s floppy disk on an ordinary computer (not an HP 50g!).

-Joe Horn- 14 November 2012