

**"MOST COMMON REFERENCE FOR THE VDP SPEED ACCURACY"**

**PANASONIC FS-A1GT MSX turbo R / R800 (Z80 MODE) / VDP V9958**

The tables for the copies:

LMMM accuracy: 16		HMMM accuracy: 32		YMMM accuracy: 32	
TESTCOPY FS-A1GT X=32		TESTCOPY FS-A1GT X=64		TESTCOPY FS-A1GT X=64	
Spr / Lin	- Speed 50/60Hz	Spr / Lin	- Speed 50/60Hz	Spr / Lin	- Speed 50/60Hz
on / 212	- 1232 / 976	on / 212	- 3520 / 2784	on / 212	- 4192 / 3168
on / 192	- 1264 / 1008	on / 192	- 3616 / 2880	on / 192	- 4384 / 3360
off / 212	- 1584 / 1312	off / 212	- 4352 / 3616	off / 212	- 5856 / 4832
off / 192	- 1584 / 1312	off / 192	- 4384 / 3648	off / 192	- 5856 / 4864
--Blank--	- 1600 / 1328	--Blank--	- 4512 / 3744	--Blank--	- 6112 / 5120

The tables for the fills:

LMMV accuracy: 16		HMMV accuracy: 64	
TESTCOPY FS-A1GT X=32		TESTCOPY FS-A1GT X=128	
Spr / Lin	- Speed 50/60Hz	Spr / Lin	- Speed 50/60Hz
on / 212	- 1696 / 1344	on / 212	- 7040 / 5632
on / 192	- 1728 / 1392	on / 192	- 7168 / 5760
off / 212	- 1840 / 1488	off / 212	- 7232 / 5888
off / 192	- 1856 / 1504	off / 192	- 7360 / 5952
--Blank--	- 2128 / 1776	--Blank--	- 8448 / 7040

The table for the lines:

LINE accuracy: 32	
TESTCOPY FS-A1GT X=8 Y=8	
Spr / Lin	- Speed 50/60Hz
on / 212	- 3936 / 3264
on / 192	- 3968 / 3296
off / 212	- 4096 / 3392
off / 192	- 4096 / 3392
--Blank--	- 4224 / 3520
( on / 212 )	

Notes:

- Speed is indicated in bytes per interrupt.
- On "TestCopy" program LINES = SPEED / ACCURACY.
- The CPU frequency for the test is 3.58MHz.

The above values have been verified by KdL, 2018.05.14  
These information refers to: [http://map.grauw.nl/articles/vdp\\_commands\\_speed.php](http://map.grauw.nl/articles/vdp_commands_speed.php)

More information to get the most accurate LINE speed (not yet implemented in OCM):  
<http://map.grauw.nl/articles/vdp-vram-timing/vdp-timing.html>  
<http://map.grauw.nl/articles/vdp-vram-timing/vdp-timing-2.html>

**"MOST COMMON REFERENCE FOR THE VDP SPEED ACCURACY"**

**PHILIPS NMS-8245 MSX2 / Z80 / VDP V9938**

The tables for the copies:

LMMM accuracy: 16 TESTCOPY NMS-8245 X=32		HMMM accuracy: 32 TESTCOPY NMS-8245 X=64		YMMM accuracy: 32 TESTCOPY NMS-8245 X=64	
Spr / Lin	- Speed 50/60Hz	Spr / Lin	- Speed 50/60Hz	Spr / Lin	- Speed 50/60Hz
on / 212	- 1232 / 976	on / 212	- 3520 / 2784	on / 212	- 4192 / 3168
on / 192	- 1264 / 1008	on / 192	- 3616 / 2880	on / 192	- 4384 / 3360
off / 212	- 1584 / 1312	off / 212	- 4352 / 3616	off / 212	- 5856 / 4832
off / 192	- 1584 / 1312	off / 192	- 4384 / 3648	off / 192	- 5856 / 4864
--Blank--	- 1600 / 1328	--Blank--	- 4512 / 3744	--Blank--	- 6112 / 5120

The tables for the fills:

LMMV accuracy: 16 TESTCOPY NMS-8245 X=32		HMMV accuracy: 64 TESTCOPY NMS-8245 X=128	
Spr / Lin	- Speed 50/60Hz	Spr / Lin	- Speed 50/60Hz
on / 212	- 1696 / 1344	on / 212	- 7040 / 5632
on / 192	- 1728 / 1392	on / 192	- 7168 / 5760
off / 212	- 1840 / 1488	off / 212	- 7232 / 5888
off / 192	- 1856 / 1504	off / 192	- 7360 / 5952
--Blank--	- 2128 / 1776	--Blank--	- 8448 / 7040

The table for the lines:

LINE accuracy: 32 TESTCOPY NMS-8245 X=8 Y=8	
Spr / Lin	- Speed 50/60Hz
on / 212	- 4096 / 3392
on / 192	- 4128 / 3424
off / 212	- 4224 / 3520
off / 192	- 4256 / 3520
--Blank--	- 4352 / 3648
( on / 212 )	

Notes:

- Speed is indicated in bytes per interrupt.
- On "TestCopy" program LINES = SPEED / ACCURACY.
- The CPU frequency for the test is 3.58MHz.

The above values have been verified by KdL, 2018.05.14  
These information refers to: [http://map.grauw.nl/articles/vdp\\_commands\\_speed.php](http://map.grauw.nl/articles/vdp_commands_speed.php)

More information to get the most accurate LINE speed (not yet implemented in OCM):  
<http://map.grauw.nl/articles/vdp-vram-timing/vdp-timing.html>  
<http://map.grauw.nl/articles/vdp-vram-timing/vdp-timing-2.html>