This document uses the Graphic Processors Data Book from March 1989 (http://www.bitsavers.org/components/stMicroelectronics/_dataBooks/Graphic_Processors_Data_Book_Mar89.pdf) instead of the datasheet from September 1993 (https://www.goto10.fr/minitel/specifications/ts9347.pdf) as his basis because there are less blatant errors (mainly with the format and the order of bits of MP and AP).

Notes on command execution (p29/42 datasheet / 91 graphic processors databook 1st edition)

1. The execution of any command starts at the trailing edge of AS* when (and only when) :

- TS9347 has been selected,

- XQR has been set,

at the previous AS falling edge.

* if DS, it would execute commands with a 6800 but not a 8051 (see timings).

TS9347 Command Table (p32/42 datasheet / 94 graphic processors databook 1st edition)

Type	Memo	Code				Parameter				Status			Arguments						Execution Time (1)	
		7	6	5	4	3	2	1	0	Ai	LX_m	LX_a	R1	R2	R3	R4	R5	R6 R7	Write	Read
40 Characters – 24 Bits	TLM	0	0	0	0	R/$\overline{w}$	0	0	I	X	X	0	C	B	A	–	–	MP	4	7.5
	TLM	0	0	0	0	R	0	1	I	X	X	0	C	B	A	–	–	MP	4	7.5
Clear Page – 24 Bits (3)	CLL	0	0	0	0	0	1	0	1	X	X	0	C	B	A	–	–	MP	<4700	
40 Characters – 16 Bits	TSM	0	0	0	0	$\overline{w}$	0	1	I	X	X	0	A*	B*	–	–	–	MP	3	5.5
Clear Page – 16 Bits (3)	CLS	0	0	0	0	0	1	1	1	X	X	0	A*	B*	–	–	–	MP	<3500	
40 Characters – 24 Bits	TLA	0	0	1	0	R/$\overline{w}$	U	U	I	X	0	X	C	B	A	AP		– –	4	7.5
	TSM	0	1	1	0	R/$\overline{w}$	0	U	I	X	X	0	A*	B*	–	–	–	MP	3	5.5
	CLS	0	1	1	0	0	1	U	1	X	X	0	A*	B*	–	–	–	MP	<3500	
40 Characters – 16 Bits	TSA	0	1	1	1	R/$\overline{w}$	U	U	I	X	0	X	A*	B*	–	AP		– –	3	5.5
80 Characters – 8 Bits	KRS	0	1	0	0	R/$\overline{w}$	U	U	I	X	X	0	C	–	–	–	–	MP	9	9.5
80 Characters – 12 Bits	KRL	0	1	0	1	R/$\overline{w}$	U	U	I	X	X	0	C	–	A	–	–	MP	12.5	11.5
Byte	TBM	0	0	1	1	R/$\overline{w}$	0	U	I	X	X	0	D	–	–	–	–	MP	4	4.5
Byte	TBA	0	0	1	1	R/$\overline{w}$	1	U	I	X	0	X	D	–	–	AP		– –	4	4.5
Move Buffer	MVB	1	1	0	1	s	$\overline{s}$	$\overline{a}$	a	0	0	0	W	–	–	AP		MP	2+4n (2)	
Move Double Buffer	MVD	1	1	1	0	s	$\overline{s}$	$\overline{a}$	a	0	0	0	W	–	–	AP		MP	2+8n (2)	
Move Triple Buffer	MVT	1	1	1	1	s	$\overline{s}$	$\overline{a}$	a	0	0	0	W	–	–	AP		MP	2+12n (2)	
Indirect	IND	1	0	0	0	R/$\overline{w}$	_	r	_	0	0	0	D	–	–	–	–	– –	2	3.5
Increment Y	INY	1	0	1	1	0	0	0	0	0	0	0	–	–	–	–	–	Y –	2	
Vertical Sync Mask Reset	VRM	1	0	0	1	0	1	0	1	0	0	0	–	–	–	–	–	– –	1	
Vertical Sync Mask Set	VSM	1	0	0	1	1	0	0	1	0	0	0	–	–	–	–	–	– –	1	
No Operation	NOP	1	0	0	1	0	0	0	1	–	–	–	–	–	–	–	–	– –	1	

s, $\overline{s}$: Source, Destination

01 : Source=MP; Destination=AP

10 : Source=AP; Destination=MP

$\overline{a}$, a : Stop Condition

01 : Stop at End of Buffer

10 : No Stop

r : Indirect Register Number

- : Not Affected

U : Undefined – does not matter

W : Used as Working Register

X : Set or Reset Status Bit

I : Pointer Incrementation

D : Data

MP : Main Pointer

AP : Auxiliary Pointer

(1) Unit : 12 clock periods without possible suspension

(2) n : Total Number of Words ≤ 40

(3) These commands repeat TLM or TSM with Y incrementation when X overflows. When the las position is reached in a row Y is incremented and progress starts again on the next row if the stop condition is not reached. They can also be used to initialize the page 80 char/row by writing character pairs. The execution time takes into account the memory cycle allocation.