

\$40	(read_n / write)	ID \$08 ID \$D4	MSX2+ FS-A1 Series 1chipMSX / Zemmiox Neo	Z80B 5.37MHz OCM-PLD v2.4 or later
\$41	(read_n / write)	BIT 0	Smart Command ID	CPL or \$FF (Null)
		BIT 1		
		BIT 2		
		BIT 3		
		BIT 4		
		BIT 5		
		BIT 6		
		BIT 7		
\$42	(read / write_n)	BIT 0	CPU Clock	Virtual DIP-SW1
		BIT 1	Video Output (MSB)	Virtual DIP-SW2
		BIT 2	Video Output (LSB)	Virtual DIP-SW3
		BIT 3	Cartridge Slot-1	Virtual DIP-SW4
		BIT 4	Cartridge Slot-2 (MSB)	Virtual DIP-SW5
		BIT 5	Cartridge Slot-2 (LSB)	Virtual DIP-SW6
		BIT 6	Current Mapper Size	Virtual DIP-SW7
		BIT 7	Current MegaSD Mode	Virtual DIP-SW8
\$43	(read / write_n)	BIT 0	Lock Mak for Toggles	CPU Clock
		BIT 1		Video Output
		BIT 2		Audio Mixer & CMT
		BIT 3		Cartridge Slot-1
		BIT 4		Cartridge Slot-2
		BIT 5		Hard Reset Key
		BIT 6		Internal Mapper
		BIT 7		Internal MegaSD
\$44	(read / write_n)	BIT 0	Lights I/O	Led 1 Status
		BIT 1		Led 2 Status
		BIT 2		Led 3 Status
		BIT 3		Led 4 Status
		BIT 4		Led 5 Status
		BIT 5		Led 6 Status
		BIT 6		Led 7 Status
		BIT 7		Led 8 Status
\$45	(read / write_n)	BIT 0	PSG Volume Level	BIT 0 (LSB)
		BIT 1		BIT 1
		BIT 2		BIT 2 (MSB)
	(read only)	BIT 3	PSG Mute	Status
		BIT 4		BIT 0 (LSB)
	(read / write_n)	BIT 5	Master Volume Level	BIT 1
		BIT 6		BIT 2 (MSB)
	(read only)	BIT 7	Master Mute	Status
\$46	(read / write_n)	BIT 0	OPLL Volume Level	BIT 0 (LSB)
		BIT 1		BIT 1
		BIT 2		BIT 2 (MSB)
	(read only)	BIT 3	OPLL Mute	Status
		BIT 4		BIT 0 (LSB)
	(read / write_n)	BIT 5	SCC-I Volume Level	BIT 1
		BIT 6		BIT 2 (MSB)
	(read only)	BIT 7	SCC-I Mute	Status
\$47	(read only)	BIT 0	CPU Custom Speed Level	BIT 0 (LSB)
		BIT 1		BIT 1
		BIT 2		BIT 2 (MSB)
		BIT 3	Turbo MegaSD (tMSD)	Status
		BIT 4	Turbo Pana Redirection (tPR)	Status
		BIT 5	VDP Speed Mode	0=Normal, 1=Fast
		BIT 6	Next Mapper Size	0=2048kB, 1=4096kB
		BIT 7	Next MegaSD Mode	Status
\$48	(read only)	BIT 0	Turbo Pana	Status
		BIT 1	Current Keyboard Layout	0=JP, 1=Non-JP
		BIT 2	CMT (Cassette Magnetic Tape)	Status
		BIT 3	Lights Mode	0=Auto, 1=ON
		BIT 4	Red Mode (Led 0)	Status
		BIT 5	Last Reset Flag	0=Cold, 1=Warm
		BIT 6	Reset Required Flag	Status
		BIT 7	MegaSD Blink	Status
\$49	(read only)	BIT 0	Pseudo Stereo	Status
		BIT 1	External Clock Mode	0=Sync to CPU, 1=3.58Mhz
		BIT 2	Machine Type ID	BIT 0 (LSB)
		BIT 3		BIT 1
		BIT 4		BIT 2
		BIT 5		BIT 3 (MSB)
		BIT 6	NTSC/PAL Type	0=Forced, 1=Auto
		BIT 7	Forced Video Mode	0=60Hz (NTSC), 1=50Hz (PAL)
\$4A	(read only)	BIT 0	Free	\$FF (Null)
\$4B		BIT 1		
		BIT 2		
		BIT 3		
\$4C		BIT 4		
		BIT 5		
		BIT 6		
		BIT 7		
\$4D	(read / write_n)	BIT 0	64kB VRAM Slot ID (Page 0)	BIT 0 (LSB)
		BIT 1		BIT 1
		BIT 2		BIT 2
		BIT 3		BIT 3 (MSB)
		BIT 4	64kB VRAM Slot ID (Page 1)	BIT 0 (LSB)
		BIT 5		BIT 1
		BIT 6		BIT 2
		BIT 7		BIT 3 (MSB)
\$4E	(read only)	BIT 0	CPU Clock	Hard DIP-SW1
		BIT 1	Video Output (MSB)	Hard DIP-SW2
		BIT 2	Video Output (LSB)	Hard DIP-SW3
		BIT 3	Cartridge Slot-1	Hard DIP-SW4
		BIT 4	Cartridge Slot-2 (MSB)	Hard DIP-SW5
		BIT 5	Cartridge Slot-2 (LSB)	Hard DIP-SW6
		BIT 6	Internal Mapper	Hard DIP-SW7
		BIT 7	Internal MegaSD	Hard DIP-SW8
\$4F	(read only)	BIT 0	Revision ID	BIT 0 (LSB)
		BIT 1		BIT 1
		BIT 2		BIT 2
		BIT 3		BIT 3
		BIT 4		BIT 4
		BIT 5		BIT 5
		BIT 6	Default Keyboard Layout	BIT 6 (MSB)
		BIT 7		Status

SMART COMMANDS TABLE		
\$00	(000)	Null Command (reserved)
\$01	(001)	Set Turbo Pana Redirection OFF (default)
\$02	(002)	Set Turbo Pana Redirection ON
\$03	(003)	Set Standard Speed 3.58MHz
\$04	(004)	Set Custom Speed 4.10MHz
\$05	(005)	Set Custom Speed 4.48MHz
\$06	(006)	Set Custom Speed 4.90MHz
\$07	(007)	Set Custom Speed 5.39MHz
\$08	(008)	Set Custom Speed 6.10MHz
\$09	(009)	Set Custom Speed 6.96MHz
\$0A	(010)	Set Custom Speed 8.06MHz (official turbo mode) (default)
\$0B	(011)	Set Turbo MegaSD OFF
\$0C	(012)	Set Turbo MegaSD ON (default)
\$0D	(013)	Set External Slot-1 + External Slot-2
\$0E	(014)	Set Internal SCC-I Slot-1 + External Slot-2
\$0F	(015)	Set External Slot-1 + Internal SCC-I Slot-2
\$10	(016)	Set Internal SCC-I Slot-1 + Internal SCC-I Slot-2
\$11	(017)	Set External Slot-1 + Internal ASCII-8K Slot-2
\$12	(018)	Set Internal SCC-I Slot-1 + Internal ASCII-8K Slot-2
\$13	(019)	Set External Slot-1 + Internal ASCII-16K Slot-2
\$14	(020)	Set Internal SCC-I Slot-1 + Internal ASCII-16K Slot-2
\$15	(021)	Set Japanese Keyboard Layout
\$16	(022)	Set Non-Japanese Keyboard Layout
\$17	(023)	Set Display Mode 15KHz Composite / S-Video
\$18	(024)	Set Display Mode 15KHz RGB w/ Audio Out
\$19	(025)	Set Display Mode 31KHz VGA Mode (60Hz only)
\$1A	(026)	Set Display Mode 31KHz VGA+ Mode (50Hz+60Hz)
\$1B	(027)	Set VDP Speed Normal Mode (default)
\$1C	(028)	Set VDP Speed Fast Mode (V9958 only)
\$1D	(029)	Prepare MegaSD OFF (warm reset to set)
\$1E	(030)	Prepare MegaSD ON (warm reset to set)
\$1F	(031)	Set MegaSD Blink OFF
\$20	(032)	Set MegaSD Blink ON (default)
\$21	(033)	Set Lights Mode OFF w/ Auto LEDs Control (default)
\$22	(034)	Set Lights Mode ON + Red Led OFF
\$23	(035)	Set Lights Mode ON + Red Led ON
\$24	(036)	Set Internal Audio Mute
\$25	(037)	Set Internal Audio Original Volume (like official firmware)
\$26	(038)	Set Internal Audio Max Volume (default)
\$27	(039)	Set CMT OFF (default)
\$28	(040)	Set CMT ON (cassette recorder required)
\$29	(041)	Lock Turbo Toggles
\$2A	(042)	Unlock Turbo Toggles
\$2B	(043)	Lock Display Toggles
\$2C	(044)	Unlock Display Toggles
\$2D	(045)	Lock Audio Mixer & CMT Toggles
\$2E	(046)	Unlock Audio Mixer & CMT Toggles
\$2F	(047)	Lock Slot-1 Toggles
\$30	(048)	Unlock Slot-1 Toggles
\$31	(049)	Lock Slot-2 Toggles
\$32	(050)	Unlock Slot-2 Toggles
\$33	(051)	Lock Slot-1 & Slot-2 Toggles
\$34	(052)	Unlock Slot-1 & Slot-2 Toggles
\$35	(053)	Lock Hard Reset Key
\$36	(054)	Unlock Hard Reset Key
\$37	(055)	Lock Mapper Toggle
\$38	(056)	Unlock Mapper Toggle
\$39	(057)	Lock MegaSD Toggle
\$3A	(058)	Unlock MegaSD Toggle
\$3B	(059)	Lock All Toggles
\$3C	(060)	Unlock All Toggles (default)
\$3D	(061)	Set Pseudo-Stereo OFF (default)
\$3E	(062)	Set Pseudo-Stereo ON (external sound cartridge required)
\$3F	(063)	Sync External Bus Clock to CPU Speed (default)
\$40	(064)	Set External Bus Clock 3.58MHz
\$41	(065)	Set Turbo Pana 5.37MHz
...	...	
\$80	(128)	Null Command (useful for programming)
...	...	
...	...	
...	...	
\$B0 .. \$B7	(176 .. 183)	Set Master Volume 0 .. 7 (max is default)
\$B8 .. \$BF	(184 .. 191)	Set PSG Volume 0 .. 7 (max is default)
\$C0 .. \$C7	(192 .. 199)	Set SCC-I Volume 0 .. 7 (max is default)
\$C8 .. \$CF	(200 .. 207)	Set OPLL Volume 0 .. 7 (max is default)
\$D0	(208)	Force NTSC Mode
\$D1	(209)	Standard NTSC/PAL Mode (bound by R9) (default)
\$D2	(210)	Force PAL Mode
\$D3	(211)	Restore Default Keyboard Layout only
\$D4	(212)	Null Command (reserved)
\$D5	(213)	Restore Default Turbo Mode only
...	...	
...	...	
\$FA	(250)	Prepare System Logo ON (warm reset only)
\$FB	(251)	Cold Reset
\$FC	(252)	Warm Reset w/ Mapper 2048kB
\$FD	(253)	Warm Reset
\$FE	(254)	Warm Reset w/ Mapper 4096kB
\$FF	(255)	Restore All Default + Prepare Mapper & MegaSD
More info at MSX Assembly Page! < http://map.grauw.nl/resources/msx_io_ports.php#switch_io >		

R/W Logic	Positive	0 = OFF 1 = ON	(read / write)
	Negative	0 = ON 1 = OFF	(read_n / write_n)

Toggles	CPU Clock	[F12] or [DIP-SW1]
	Video Output	[(SHIFT+)+PRNSCR] or [DIP-SW2/3]
	Audio Mixer & CMT	[(SHIFT+)+PGUP/PGDOWN/F9/F10/F11] & [SCRLCK]
	Cartridge Slot-1	[SHIFT+F12] or [DIP-SW4]
	Cartridge Slot-2	[SHIFT+SCRLCK] or [DIP-SW5/6]
	System Reset	[HARD RESET KEY] Fast or Long-Click (normal or full reboot)
	Internal Mapper	[DIP-SW7] only
Internal MegaSD	Internal MegaSD	[DIP-SW8] only