

SWITCHED I/O PORTS (\$40 - \$4F) / Revision 003 / by KdL 2011.07.09

\$40	(read_n / write)	ID \$08 ID \$D4	MSX2+ FS-A1 SERIES* 1CHIPMSX	w/ Z80B 5.37MHz w/ OCM-PLD Pack v2.4		
\$41	(read_n / write)	BIT 0	Smart Commands	Returns \$FF if Not Found		
		BIT 1				
		BIT 2				
		BIT 3				
		BIT 4				
		BIT 5				
		BIT 6				
\$42	(read / write_n)	BIT 7				
		BIT 0			Green Turbo	Virtual DIP-SW1
		BIT 1			Display (MSB)	Virtual DIP-SW2
		BIT 2			Display (LSB)	Virtual DIP-SW3
		BIT 3			Slot-1	Virtual DIP-SW4
		BIT 4			Slot-2 (MSB)	Virtual DIP-SW5
		BIT 5			Slot-2 (LSB)	Virtual DIP-SW6
\$43	(read / write_n)	BIT 6	Current Mapper	Virtual DIP-SW7		
		BIT 7	Current MegaSD	Virtual DIP-SW8		
		BIT 0	Lock Mask of Toggles**	Turbo		
		BIT 1		Display		
		BIT 2		Audio Mixer & CMT		
		BIT 3		Slot-1		
		BIT 4		Slot-2		
BIT 5	Hard Reset					
BIT 6	Mapper					
\$44	(read / write_n)	BIT 7	MegaSD			
		BIT 0	Green Led 1			
		BIT 1	Green Led 2			
		BIT 2	Green Led 3			
		BIT 3	Green Led 4			
		BIT 4	Green Led 5			
		BIT 5	Green Led 6			
\$45	(read / write_n)	BIT 6	Green Led 7			
		BIT 7	Green Led 8			
		BIT 0	PSG Volume	BIT 0 (LSB)		
	(read only)	BIT 1	PSG Mute	BIT 1		
		BIT 2		BIT 2 (MSB)		
		BIT 3		Status		
	(read / write_n)	BIT 4	Master Volume	BIT 0 (LSB)		
BIT 5			BIT 1			
BIT 6			BIT 2 (MSB)			
(read only)	BIT 7	Master Mute	Status			
	\$46	(read / write_n)	BIT 0	OPLL Volume	BIT 0 (LSB)	
			BIT 1		BIT 1	
BIT 2				BIT 2 (MSB)		
(read only)		BIT 3	OPLL Mute	Status		
		BIT 4		BIT 0 (LSB)		
		BIT 5	SCC-I Volume	BIT 1		
(read only)	BIT 6		BIT 2 (MSB)			
	BIT 7	SCC-I Mute	Status			
	\$47	(read only)	BIT 0	CPU Custom Speed	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		Status	
BIT 6			Next Mapper		Status	
BIT 7			Next MegaSD		Status	
\$48	(read only)	BIT 0	Red Turbo (tPANA)*	Status		
		BIT 1	Keyboard Layout	Status		
		BIT 2	CMT	Status		
		BIT 3	Lights Mode	0=Auto, 1=ON		
		BIT 4	Red Mode	Red LED 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	Null	Free		
		BIT 2				
		BIT 3				
		BIT 4				
		BIT 5				
		BIT 6				
\$4E	(read only)	BIT 7				
		BIT 0			Green Turbo	Hard DIP-SW1
		BIT 1			Display (MSB)	Hard DIP-SW2
		BIT 2			Display (LSB)	Hard DIP-SW3
		BIT 3			Slot-1	Hard DIP-SW4
		BIT 4			Slot-2 (MSB)	Hard DIP-SW5
		BIT 5			Slot-2 (LSB)	Hard DIP-SW6
		BIT 6			Mapper	Hard DIP-SW7
\$4F	(read only)	BIT 7	MegaSD	Hard DIP-SW8		
		BIT 0	Revision Number	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		BIT 6 (MSB)		
\$4A-\$4D		BIT 7	Keyboard Layout	Default Status		
(*)		Adv. to FS-A1WX, FS-A1WSX and FS-A1FX specs:				
		http://map.grauw.nl/resources/msx_io_ports.php#switch_io				

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 (default) (originally called 10MHz)
\$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 to 15KHz Composite / S-Video
\$18	(024)	Set Display Mode to 15KHz RGB w/ Audio (Mono)
\$19	(025)	Set Display Mode to 31Khz VGA
\$1A	(026)	Set Display Mode to 31Khz VGA w/ High Luminance
\$1B	(027)	Set VDP Speed to Normal Mode (default)
\$1C	(028)	Set VDP Speed to Fast Mode (V9958 only)
\$1D	(029)	Preset MegaSD OFF for next Warm Reset
\$1E	(030)	Preset MegaSD ON for next Warm Reset
\$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 Audio Mute on PSG, SCC-I and OPLL
\$25	(037)	Set Original Audio Settings on PSG, SCC-I and OPLL
\$26	(038)	Set Audio at Max Volume on PSG, SCC-I and OPLL (default)
\$27	(039)	Set CMT OFF (default)
\$28	(040)	Set CMT ON
\$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)	Pseudo-Stereo OFF (default)
\$3E	(062)	Pseudo-Stereo ON
\$3F	(063)	Asynchronous tPANA OFF (default)
\$40	(064)	Asynchronous tPANA ON (external slots 3.58MHz)
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\$80	(128)	Null Command (useful for programming)
...
\$D3	(211)	Restore Keyboard to Default Layout
\$D4	(212)	Null Command (reserved)
\$D5	(213)	Restore Turbo to Default Setting
...
...
...
\$FA	(250)	Restore Last Reset Flag to Cold Reset Status
\$FB	(251)	Cold Reset (= Hard Reset)
\$FC	(252)	Warm Reset w/ Mapper 2048KB
\$FD	(253)	Warm Reset
\$FE	(254)	Warm Reset w/ Mapper 4096KB
\$FF	(255)	Restore all Default Settings + Preset Mapper & MegaSD to Default
R / W	(read / write)	0 = OFF 1 = ON Positive Logic
	(read_n / write_n)	0 = ON 1 = OFF Negative Logic
(**)	Turbo	[F12] [SHIFT+PGUP/PGDOWN] [DIP-SW1]
	Display	[PRNSCR] [SHIFT+PRNSCR] [DIP-SW2] [DIP-SW3]
	Audio Mixer & CMT	[F9/F10/F11] [SHIFT+F9/F10/F11] [PGUP/PGDOWN] [SCRLCK]
	Slot-1	[SHIFT+F12] [DIP-SW4]
	Slot-2	[SHIFT+SCRLCK] [DIP-SW5] [DIP-SW6]
	Hard Reset	[HARD RESET KEY]
	Mapper	[DIP-SW7]
	MegaSD	[DIP-SW8]